

RAILWAY OPERATING AND SAFETY RULES

JULY 1989

Approved for public release; distribution is unlimited.

HEADQUARTERS, DEPARTMENT OF THE ARMY

FIELD MANUAL
No. 55-21

HEADQUARTERS
DEPARTMENT OF THE ARMY
Washington, DC, 17 July 1989

RAILWAY OPERATING AND SAFETY RULES

PREFACE

The US Army may be called on to operate railroads worldwide. This manual provides a standard code of operating rules for personnel engaged in the operation of military railways. The rules given in this publication are consistent with those of railroads throughout the United States and many foreign countries. Some rules have been modified to be adaptable to operating conditions peculiar to military railroads.

DISTRIBUTION RESTRICTION: **Approved for public**
release; distribution is unlimited.

*This publication supersedes TM 55-200/TO 45-1-5, 14 September 1973, and rescinds DA Forms 4094-R, 4095-R, 4096-R and 4097-R, May 1973.

In order to work productively and safely, personnel must be knowledgeable of and obey the rules and special instructions of the military railroad. Commanders of railway units and installations or activities assigned and using railway equipment are responsible for selecting, training, and testing railway operating personnel in accordance with this manual and AR 611-201.

The proponent of this publication is HQ TRADOC. Submit changes for improving this publication on DA Form 2028 (Recommended Changes to Publications and Blank Forms) and forward it to Commandant, US Army Transportation School, ATTN: ATSP- TDL, Fort Eustis, VA 23604-5399.

Unless otherwise stated, whenever the masculine gender is used, both men and women are included.

TABLE OF CONTENTS

	Page
Preface	1
CHAPTER 1. General Rules	6
Safety Rules	12
Operating Rules	13
Special Rules	14
CHAPTER 2. Operating Rules	17
Standard Time	17
Timetables	18
Signals and Their Use	21
Superiority of Trains	40
Movement of Trains and Engines	41
CHAPTER 3. Train Orders	75
Movement by Train Orders	75
Prescribed Forms of Train Orders	90
Examples of Train Order Forms ..	93
CHAPTER 4. Signal Aspects	130
Distant Signals	130
CHAPTER 5. Block Signals	132
Track Permits Within ABS Territory	132
Movement of Trains With the Current of Traffic on a Main Track	133
	3

	Page
Protection of Main Tracks Where Current of Traffic Has Been Established	133
Absolute Permissive Block	135
Block System Rules	135
Rules Applicable Only Within Centralized Traffic Control Limits	153
CHAPTER 6. Track Warrants and Bulletins .	156
Rules Applicable Only Within Track Warrant Control Limits .	156
Track Bulletin Rules	162
CHAPTER 7. Railroad Radio Rules	167
CHAPTER 8. Conduct of Personnel and Safety	174
General Rules of Conduct	174
Personal Injuries and Accidents .	183
CHAPTER 9. Special Rules for Duty Personnel	204
Train Dispatchers	204
Agents and Operators	206
Yardmasters	206
Engineers	209
Conductors	211
Trainmen	213
Firemen	214
Auto-Railer and Track Car Drivers	214
Personnel Performing Trailer, Container, and Multi-Level Operations	215

CHAPTER 10. Maintenance-of-Way	
Personnel	217
General	217
Watchmen	217
Train Clearance.	217
Flag Protection	218
Fires	218
Camp Cars	218
Tracks and Right-of-Way	219
Track Clearances	219
Material and Tool Handling	219
Tools, Appliances, and Machines	220
CHAPTER 11. Maintenance-of-Equipment	
Personnel	223
Safety	223
Clothing and Shoes	223
Tools and Machines	223
Repair Tracks	224
Shop Precautions	224
Handtools.	224
Welding and Cutting	227
Cranes, Hoists, and Derricks	232
Ladders and Scaffolds	238
Electrical and Line Work	240
APPENDIX	243
GLOSSARY	246
REFERENCES	247
INDEX	248

GENERAL RULES

Department of the Army railways include all railways constructed, maintained, or operated for Army use, whether by military personnel or by civilian personnel under military direction. Department of the Army railways are classified as military and utility railways. Personnel must be knowledgeable of the following terms to understand and comply with the railway operating and safety rules. These rules pertain to the safe operation of the Department of the Army railways and contain other general information for operators and other railway personnel.

Absolute block— A length of track in which no train or engine is permitted to enter while it is occupied by another train or engine.

Absolute permissive block (APB)— A designated section of track or tracks within which the movement of trains will be governed by block signals, which supersede the superiority of trains. The block signals may be controlled manually or automatically.

Absolute signal— A block or interlocking signal designated by an “A” marker or the absence of a number plate.

Automatic block signal system (ABS)— A series of consecutive blocks governed by block signals, cab signals

or both, actuated by a train, engine, or by certain conditions affecting the use of a block.

Automatic cab signal system (ACS)— A system which provides for the automatic operation of the cab signals and cab warning whistle.

Automatic train stop system (ATS)— A system actuated by wayside inductors so arranged that its operation will automatically result in the application of the brakes until the train has been brought to a stop.

Block occupancy indicator— An indicator used to convey information regarding block occupancy.

Block signal— A fixed signal at the entrance of a block to govern trains and engines entering and using that block.

Block system— A block or series of consecutive blocks within APB, ABS, ACS, CTC, or interlocking limits.

Cab Signal— A signal located in the engineer's compartment or cab indicating a condition affecting the movement of a train or engine. Cab and interlocking signals are used together and along with or in place of block signals.

Centralized traffic control (CTC)— A remotely controlled block signal system under which train movements are authorized by block signals whose indications supersede the superiority of trains.

Controlled siding— A siding within CTC or interlocking limits. Authorization for use of controlled siding is governed by signal indication or control operator.

Controlled signal— An absolute signal, whose aspect is controlled by a control operator.

Crossover— A track connection between two adjacent tracks.

Current of Traffic— The movement of trains on a main track one direction, specified by the rules.

Distant signal— A fixed signal outside of a block system, used to govern the approach to a block signal, interlocking signal, or switch point indicator. It will not convey information as to conditions affecting the use of the track between the distant signal and block signal, interlocking signal, or switch point indicator to which approach is governed. It will be identified by a “D” marker.

Division— A portion of the railroad designated by timetable.

Double track (DT)— Two main tracks, on which the current of traffic is in a specified direction on one track, and in the opposite direction on the other.

Dual control switch— A power-operated switch, also equipped for hand operation.

Electric switch lock— An electrically controlled lock device affixed to a hand operated switch or derail to control its use.

Engine— A unit propelled by any form of energy, or a combination of such units operated from a single control, used in train or yard service.

Extra train— A train not authorized by timetable schedule. Trains may be designated as extra or work extra.

Extra— For any extra train except work extra, the movement of which is authorized in a specified direction.

Work extra— For any extra train authorized by Form H train order, the movement of which maybe in either direction within specified limits.

Fixed signal— A signal of fixed location indicating a condition affecting the movement of a train.

Initial or originating station— The first station on each subdivision from which a train is authorized to occupy the main track.

Interlocking— An arrangement of signal appliances so interconnected that their movements must succeed each other in proper sequence. It may be operated manually or automatically.

Interlocking limits— The tracks between the outer opposing absolute signals of an interlocking.

Interlocking signals— The fixed signals of an interlocking, governing trains using interlocking limits.

Main track— A track extending through yards and between stations which must not be occupied without authority or protection.

Multiple main tracks— Two or more main tracks, the use of which is designated in the timetable.

Overlap sign— A sign marking the limit of control of a block signal.

Pilot— Any personnel assigned to a train when the engineer or conductor is not acquainted with the rules

or portion of railroad over which the train is to be moved.

Register station—A station at which a train register is located.

Regular train—A train authorized by a timetable schedule.

Restricted speed— A speed not exceeding 20 mph that will permit stopping within one-half the range of vision short of train, engine, railroad car, stop signal, derail, or switch not properly lined, and will allow looking out for broken rail.

Schedule— That part of a timetable which prescribes class, direction, number, and movement for a regular train.

Siding— A track auxiliary to the main track for meeting or passing trains. The timetable will indicate stations at which sidings are located.

Signal aspect— The appearance of a fixed signal conveying an indication as viewed from the direction of an approaching train; or the appearance of a cab signal conveying an indication as viewed by an observer in the cab.

Signal indication— The information conveyed by the signal aspect.

Single track— A main track upon which trains are operated in both directions.

Spring switch— A switch equipped with a spring mechanism to restore the switch points to original position after having been trailed through.

Station— A place designated in the timetable station column by name.

Subdivision— A portion of a division designated by timetable.

Superior train— A train having precedence over another train.

Switch point indicator— A light type indicator used in connection with facing point movement over certain switches to indicate proper fit of switch points.

Terminating station— The last station on each subdivision to which a train is authorized to occupy the main track.

Timetable— The authority for the movement of regular trains subject to the rules. It may contain classified schedules and includes special instructions.

Track bulletin— A notice containing information as to track conditions or other conditions necessary for the safe operation of trains or engines.

Track permit— A form used to authorize occupancy of main track where designated by special instructions.

Track side warning detector— Wayside detectors provided at various locations as shown in the timetable which detect such conditions as overheated journals, dragging equipment, excess dimensions, shifted loads, high water, and slides.

Track warrant control (TWC)— A method of authorizing movements of trains or engines or protecting personnel or machines on a main track within specified

limits in territory designated by special instructions or general order.

Train— An engine(s) with or without cars, displaying a marker and authorized to operate on a main track.

Train register— A book or form used at designated stations to register time of arrival and departure of trains, and other information as maybe prescribed.

Variable switch— A switch, designated by letter “V” or bowl painted yellow that remains lined in the position to which it is forced when trailed through the switch points.

Yard— A system of tracks, other than main tracks and sidings, used for making up trains, storing cars, and for other purposes.

Yard limits— A portion of main track designated by yard limit signs and by timetable, train order Form T, or track bulletin, used by trains and engines as prescribed by Rule 93.

Yard engine— An engine assigned to yard service.

SAFETY RULES

Safety is of the first importance in the discharge of duty. Obedience to the rules is essential to safety and to remaining in service. The service demands the faithful, intelligent, and courteous discharge of duty. Personnel must use care to prevent injury to themselves and to others. They must be alert and attentive at all times when performing their duties and plan their work to avoid injury.

Authorized personnel must report any accidents; personal injuries; defects in track, bridges or signals; or any unusual conditions affecting the safe and efficient operation of the railroad by the first means of communication. A written report must follow promptly when required.

OPERATING RULES

Personnel whose duties are prescribed by operating rules must have a copy available for reference while on duty. Personnel whose duties are affected by the timetable or special instructions must have a current copy immediately available for reference while on duty. Personnel must be familiar with and obey all rules and instructions. If they are in doubt as to the meaning of any rule or instruction, personnel must ask their supervisor for an explanation. They must attend required classes and pass the required examinations.

Rules may be issued, cancelled, or modified by general order, timetable, or special instructions. When authorized by the superintendent or battalion commander, general orders or special instructions may be cancelled, modified, or issued by train order Form Q or track bulletin.

Personnel must cooperate and assist in carrying out the rules and instructions, and must promptly report any violations to the proper officer. They must also report any condition or practice affecting the safety of trains, passengers or personnel, and any misconduct or negligence affecting the interest of the government.

Personnel must expect the movement of trains, engines, cars or other movable equipment at any time, on any track, in either direction. They must not stand on the track in front of an approaching engine, car, or other moving equipment. Personnel must know the location of and the standard minimum clearance of structures and obstructions.

Personnel whose duties require service on more than one division, terminal, or on another railroad, are under the jurisdiction of the officers of the division, terminal, or other railroad on which the service is being performed. When performing service on another railroad, unless otherwise instructed, personnel will be governed by the safety rules and the air brake and train handling rules of the railroad by which they are employed and by the operating rules and timetable of the railroad upon which they are operating.

Train and engine service personnel must not occupy the roof of a freight car or caboose under any circumstances. Other personnel whose duties require them to occupy the roof of a car or caboose may do so only when equipment is standing.

SPECIAL RULES

Rules with the prefix “S” apply to single track only. Personnel must be familiar with the following terms as they apply for special orders.

Car(s)— Railroad cars.

Conductor (or yard engine foreman)— Individual in complete charge of a train crew.

Control operator— Person assigned to operate a centralized traffic control (CTC) or interlocking control machine or authorized to grant track permits.

Engineman— Engineers, firemen, or hostlers.

Flagman— Any soldier providing flag protection.

Foreman— A soldier in charge of work.

Trainman— Conductors, brakemen, yard engine foremen, switchmen, and yard helpers.

Train(s)— Used in connection with speed restrictions, flag protection, the observance of all signals (except train order signals) and signal rules, also applies to engines.

Special instructions—Special instructions contained in the timetable or in pamphlet supplemental to the timetable.

When there are multiple rules under the same number followed by a suffix letter, each rule is considered as a separate rule. While rules are subdivided for convenience, they apply equally to all, and must be observed wherever they relate in any way to the discharge of personnel duties.

The following authorized abbreviations are used in train orders, track warrants, track bulletins, or clearances. Initials are authorized for use in place of

the train dispatcher's signature. The usual abbreviations for names of the months, except May, June, and July are also allowed.

Authorized Abbreviations for Use in Train Orders

ABR	absolute block register	eng	engine
		enr	engineer
ABS	Automatic Block Signal System	frt	freight
		jet	junction
ACS	Automatic Cab Signal System	max	maximum
		MW	maintenance of way
AMTK	Amtrak	msg	messenger
APB	absolute permissive block	reins	minutes
		MP	mile post
ATC	automatic train control	mph	miles per hour
		no	number
ATS	automatic train stop	OK	correct
		opr	operator
C&E	conductor and engineer	orig	originating
		psgr	passenger
corn	complete	subdiv	subdivision
condr	conductor	supt	superintendent
CTC	centralized traffic control	TWC	track warrant control
dispr	dispatcher		
div	division	Y M	yardmaster

OPERATING RULES

The rules in this chapter have been adapted for use for Department of Defense (DOD) railways. They pertain to the use of time and timetables.

STANDARD TIME

Rule 1. Standard clocks. Standard clocks will be identified by a sign “Standard Clock.” Standard clocks should indicate the correct time. If necessary, assigned personnel at each location must set clock to correct time.

Rule 2. Time Service Requirements. While on duty, personnel designated by the Army railroad must have and use a watch which conforms to the requirements of that railroad. Personnel must not have an unauthorized watch on their person. Instructions issued by the Army railroad will govern inspection of watches and other time service requirements. Continental time is used where authorized.

Rule 3. Time Comparison. Designated personnel will compare their watches with a standard clock before beginning each day's work. Watches that vary more than 30 seconds from the time on a standard clock, must be set to correct time. When required, personnel will record the time that watches are compared with a standard clock on the prescribed form. Where a standard clock is not available, designated personnel will

obtain the correct time from the train dispatcher or from any personnel who made time comparison.

Conductors must, when practicable, compare time with their engineer before starting each trip or day's work. At the first opportunity, other members of the crew must compare time with the conductor or engineer.

TIMETABLES

Rule 4. Change of Timetable. From the moment it takes effect, each timetable supersedes the preceding timetable, and its schedules take effect on any subdivision at time of departure at the initial station on such subdivision. When a new timetable takes effect, any train authorized by the preceding timetable loses both right and schedule and afterwards can proceed only when authorized as an extra.

Schedules on each subdivision date from their initial station on such subdivision and will be assumed only from their initial station on such subdivision. Not more than one schedule of the same number and day shall be in effect on any subdivision.

Rule 4 (A). Notice New Timetable. Notice of new timetable, timetable supplement, or special instructions must be issued by general order and posted at least 24 hours before effective time. Train order Form Q or track bulletin must be issued not less than 24 hours before effective time and continue for 6 days after effective time to conductors, engineers, and yardmasters.

Rule 4 (B). Special Instructions. Special instructions supersede any rule or regulation with which they conflict.

Rule 4 (C). General Orders, Circulars, Bulletins, and Notices. General orders are numbered consecutively and are issued and cancelled by authority and over the signature of the officer in charge or other designated officer. General orders contain only information or instructions relating to the rules or movement of trains or engines. They supersede special instructions or any rule or regulation with which they conflict.

Circulars, bulletins, notices, and other information and instructions are issued as required and remain in effect until cancelled. General orders, bulletins, notices, and circulars are posted in books and on bulletin boards at stations designated in the timetable. Trainmen, enginemen, and others whose duties require, must review them before beginning each day's work or trip. Conductors, engineers, and train dispatchers record the highest number of general orders on the prescribed form. Conductors and engineers operating over more than one division must review the general orders and bulletins at the initial point on each subdivision, except where they have reviewed them for each division at the beginning of their trip or tour of duty.

Rule 5. Schedule Time. Where one time is shown in timetable schedule at a station, it is the leaving time. At a terminating station, it is the arriving time. Where two times are shown, they are arriving and leaving times.

Scheduled meeting or passing stations may be indicated by time shown in full-face type. The numbers of the schedules to be met or passed may be shown by smaller, adjacent figures.

Rule 5 (A). Where Time Applies. Unless otherwise specified by train order or special instructions, except where centralized traffic control (CTC) rules are in effect, scheduled leaving time and train order time applies on single track, at the clearance point of siding switch where an opposing train clears the main track. Where there is no siding, and on multiple main tracks, time applies at the station sign.

Rule 5 (B). Not Leave Before. A train must not leave a station in advance of its schedule leaving time.

Rule 5 (C). Receive or Discharge Traffic. Trains scheduled to receive or discharge traffic at a station must not leave the point where such traffic is received or discharged before the time shown in the schedule.

Rule 6. Letters Schedule Column. The letter “s” placed in schedule column indicates regular stop. The letter “f” indicates flag stop to receive or discharge traffic.

Rule 6 (A). Timetable Characters. Letters or symbols placed in timetable station column indicate conditions or requirements prescribed by special instruction applicable to specific locations. Information concerning the type of operation may be shown by brackets in station column of timetable.

SIGNALS AND THEIR USE

Rule 7. Proper Signal Appliances. Personnel that display signals or whose duties may require them to give signals, must have the proper appliances. They must keep their appliances in good order and ready for immediate use.

Rule 7 (A). Vigilance for Signals. Personnel must keep a vigilant lookout for signals and act on them strictly according to the rules. Personnel must use the utmost care to avoid acting on signals that are not understood, or that may be intended for other trains or engines. In case of doubt, personnel must reach an understanding before movement is made.

Rule 7 (B). Giving Signals. Personnel giving signals must be located in positions where they are plainly seen. Signals must be given in a way which can be clearly understood. When practicable, all hand signals must be given on the engineer's side of track; but they must be respected when received from either side.

Rule 7 (C). Signal Disappearance. When backing or shoving a train, engine, or cars in response to hand signals, personnel giving such signals, or the light by which such signals are given, must not disappear from view. The disappearance of personnel or lights from view must be regarded as a stop signal, unless the person on leading car has control of air brakes.

When train or engine movements are made in response to radio communication, such as in switching operations or picking up or setting out cars, specific

instructions are given for each movement. When backing or shoving train, engine, or cars, the distance of the movement must be specified and movement stopped within one-half the specified distance unless more instructions are received. Failure to maintain radio contact with the personnel directing the movement by radio must be regarded as a stop signal.

Rule 7 (D). Prescribed Signals. Flags or lights of a prescribed color must be used by day, and lights or reflecting flags of a prescribed color and type by night. Flags may be cloth, metal, or other suitable material. Day signals are displayed from sunrise to sunset. Night signals are displayed from sunset to sunrise and at any time when day signals cannot be plainly seen.

Rule 7 (E). Flagman's Signals. The flagman must use day signals which consist of a red flag, minimum of eight torpedoes, and six red fuses; and night signals which consist of a white light, minimum of eight torpedoes, and six red fusees.

Rule 8. The hand and flag signals are given in the same manner as lantern signals (see Figure 1).

Rule 9. Hand and Other Signals. Any object waved violently by any person on or near the track is a signal to stop. Other hand signals may be used for other purposes, if they are understood by all crew member: When not involved in giving hand signals, personnel must avoid making motions which may be construed as a hand signal. Radio and other means of voice communication may be used instead of hand signals to

INDICATION	SIGNAL	MANNER OF USING
(a) STOP		Swung at right angle to track
(b) REDUCE SPEED		Slight horizontal movement at arm's length at right angle to the track
(c) PROCEED		Raised and lowered vertically
(d) BACK		Swung slowly in a circle at right angle to track
(e) APPLY AIR BRAKES		Swung horizontally above the head at right angle to track, when equipment is standing
(f) RELEASE AIR BRAKES		Held at arm's length above head, when equipment is standing

Figure 1. Hand and Flag Signals and their Indications — Rule 8

convey information when the use of hand signals is not possible. Crew members must understand exactly which moves will be made while radio is being used to control the movement of a train or engine. During that time, hand signals will not be given to the engineer nor acted upon with the exception of stop signals given when necessary to stop the movement.

Rule 10. Temporary Restrictions. When practicable, a yellow flag will be displayed not less than 2 miles in advance of each location where train movement is restricted by train order, track bulletin, or general order due to track conditions, structures, men, or equipment. Restriction specified by train order, track bulletin, or general order must be complied with until rear of train has passed the green flag or until the train has cleared the limits of the restriction when a green flag is not displayed.

When a yellow flag cannot be placed 2 miles in advance of restriction due to close proximity to a terminal, a junction, or for other reasons, the train dispatcher must be informed of actual location of yellow flag. Such information must be included in train order, track bulletin, or general order.

When a yellow flag is displayed and restriction is not specified by train order, track bulletin, or general order, speed must be reduced. The train must be prepared to stop short of flagman, red flag, or men and equipment fouling track 2 miles beyond yellow flag and speed must not exceed 10 mph. After rear of train has passed a green flag or has reached a point 4 miles

from the yellow flag, speed may be resumed where Rule 10 (D) is in effect. Where Rule 10(D) is NOT in effect, speed must not be increased until the train dispatcher ensures the crew that there is no train order or track bulletin restricting movements at that location.

A green flag displayed will indicate the end of the restriction. When a series of locations requiring reduced speeds are so closely spaced that the green flags will overlap the yellow flags, a yellow flag will be placed in advance of each location. Only one green flag will be placed at the leaving end of the last location.

On tracks where there is a current of traffic, when a yellow flag is to be placed in advance of a temporary speed restriction or track condition, a yellow flag and a green flag will be placed only for trains moving with the current of traffic. When protection is to be provided for men and equipment, this will not apply and flags must be placed in both directions on each track affected.

Rule 10 (A). Display of Red Flag. A red flag will be displayed at locations where trains must stop as required by Form Y train order, track bulletin, or other conditions. Train must stop short of the red flag and not proceed unless authorized by foreman. If authority to proceed is received before stop is made, train may pass red flag without stopping.

After authority to proceed is received, if Form Y train order or track bulletin is not in effect, train must not exceed 10 mph until rear has passed green flag or

has reached a point 2 miles from the red flag. Foreman may authorize a different speed or distance if necessary.

Rule 10 (B). Between Rails. When a red flag is displayed between the rails of any track other than the main track, the train must stop and not proceed until the flag has been removed by a unit of the class that placed it.

Rule 10 (C). Flag Location. Flags as prescribed by Rules 10 and 10(A) will be displayed only on the track affected, except when yellow and red flags are used for protection without flagman, train order, track bulletin, or general order. Yellow flags and red flags, where required, must be placed to protect all possible access to the restricted area.

These flags, except as prescribed by Rule 10(B), must be displayed to the right of track as viewed from an approaching train when practicable. Flags will not apply to the track on which a train is moving when displayed beyond the first rail of an adjacent track.

Rule 10 (D). Protection by Yellow Flag. On subdivisions where maximum speed does not exceed 35 mph, and where authorized by special instructions, speed may be restricted to 10 mph for a distance of up to 2 miles without train orders, track bulletins, or general orders. Protection for men or equipment on main track must be provided by displaying yellow flags as prescribed by Rule 10. This protection will extend from a point 2 miles from the yellow flag until the rear of the

train has passed a green flag or has reached a point 4 miles from the yellow flag.

Rule 10 (E). Permanent Speed Signs. Permanent speed restriction signs, as prescribed in special instructions, will be placed in advance of the point where speed restrictions become effective. Figures on the face of these signs denote the highest speed permitted over the limits of the restriction. When two sets of figures are shown, the higher figure governs trains consisting entirely of passenger equipment and the lower figure governs all other trains.

A permanent resume speed or a speed sign prescribing higher speed will be placed at the end of each restriction. The speed shown on each permanent speed restriction sign must be observed until the rear of the train has passed a permanent resume speed sign or a speed sign authorizing a higher speed.

Rule 11. Unattended Fusee. A train finding an unattended fusee burning on or near its track must stop until fusee burns out. The train must then proceed at restricted speed for a distance of one mile from point where fusee was displayed. Care must be used to avoid placing fusees where they may cause fires.

Rule 12. Torpedoes. The explosion of one or more torpedoes requires a train to immediately reduce to restricted speed for a distance of 2 miles from the explosion point. When placing torpedoes, be sure that they are placed on the rail not less than 150 feet apart. They must not be placed near station buildings, crossings, or on anything other than main tracks or

sidings. When there is a possibility that they may be covered by snow, a duplicate set will be placed on the opposite rail to explode simultaneously.

Rule 14. Engine Bell. Except where the momentary stop and start is a continuous switching movement, the engine bell must be rung when the engine is about to be moved, while passing through tunnels, and, except when shoving cars, while approaching crossings at grade. Ringing must begin sufficiently in advance of entering crossing to provide warning. If distance permits, warning must be given not less than one-fourth mile before reaching crossing and continue until crossing is occupied. Ring bell elsewhere when necessary as a warning signal.

Rule 15. Required Whistle Signals. Sound whistle frequently when visibility is impaired by weather conditions. In the event of whistle failure, ring the bell continuously while moving.

Figure 2 shows the required whistle signals for short and long sounds. Short sounds are indicated as "o" and long sounds as "—."

Rule 16. Communicating Signals. Each car of a passenger train must be connected with the engine by a communicating signal appliance unless radio communication between conductor and engineer is provided. The radio may be used in place of communicating signals to convey information.

SOUND	INDICATION
(a) 00000000 Succession of short sounds	Used in an emergency, such as an alarm for persons or livestock on the track. When this signal is heard by crews on other trains or engines, movement must stop until it is safe to proceed.
(b) —	When standing, air brakes are applied, pressure equalized. When running, train approaching junctions, railroad crossings at grade, and drawbridges.
(c) — —	Release brakes. Proceed. When running, acknowledge calling on indication.
(d) 0000 —	Call conductor to the engine or radio.
(e) 00	Acknowledgement of any signal not otherwise provided for.
(f) 000	When standing, back. Acknowledgement of Rules 8(d) and 16(c). When running acknowledgement of Rule 16(d).
(g) 0000	Call for signals.
(h) —000	Flagman protect rear of train.
(i) 000 —	Flagman protect front of train.
(j) — — — —	Flagman may return from west or south.
(k) — — — — —	Flagman may return from east or north.
(l) — — 0 —	When approaching public crossings at grade, given in advance for warning, but not less than one-fourth mile before reaching a crossing, if distance permits. Prolong or repeat signal until engine is in crossing. If distance does not permit, give whistle signal in advance of entering crossing to give warning.

Figure 2. Required Whistle Signals — Rule 15

SOUND	INDICATION
(l) — — 0 — (cont)	Signal is also used to warn employees when view is restricted. <i>EXCEPTION: Signal does not apply when shoving cars.</i>
(m) 0 —	Inspect brake system for leaks or sticking brakes.
(n) — 0	When operating against the current of traffic approaching stations, junctions, railroad crossings at grade and obscure curves; or preceding the signals prescribed by Rules 15(j) and 15(k).
(o) — — 0	When approaching meeting and waiting points. (See Rule 15(h)).
(p) 0 0 —	Transfer of air brake control.

Figure 2. Required Whistle Signals — Rule 15 (cont)

Should both systems become inoperative, hand signals must be used. The signals prescribed in Figure 3 are illustrated by "o" for short sounds, and "-" for long sounds.

Rule 17. Headlight Display. Except as provided in Rule 16(B), the headlight must be displayed bright to the front of every train by day and by night. It must be extinguished when a train has stopped clear of the main track to meet a train or is standing to meet a train at the end of multiple main tracks or at a junction.

Rule 17(A). Headlight Failure. At night, if the headlight on a train fails, a white light must be used in its place. If train is moving, the bell must be rung

SOUND	INDICATION
(a) ○ ○	When standing, start.
(b) ○ ○	When running, stop.
(c) ○ ○ ○	When standing, back.
(d) ○ ○ ○	When running, stop at next station.
(e) ○ ○ ○ ○	When running, reduce speed.
(f) ○ ○ ○ ○ ○	When standing, recall flagman.
(g) —	Running test completed. When running, look back for hand signals. When standing, apply or release air brakes.
(h) — — ○	Approaching meeting or waiting point.

Figure 3. Sound Signals and their Indications — Rule 16

continuously, the whistle sounded frequently, and the train dispatcher notified at the first opportunity.

Rule 17(B). Dimming Headlight. Headlights must be dimmed under the following conditions, except when approaching and passing over public crossings at grade:

- At stations and yards where switching is being done.
- When standing close behind another train.
- While standing on main track awaiting arrival of an approaching train that is to take siding.
- When approaching and passing head end and rear end of train on adjacent track.
- When the safety of employees so requires or to permit passing of signals.

Rule 17 (C). Headlight Front and Rear. When moving, engines must display a headlight to the front and rear by day and night. It may be dimmed or extinguished on the end coupled to cars. The headlight must be dimmed on the end facing an approaching train or engine on an adjacent track.

Rule 18. Oscillating White Light. When leading end is equipped with oscillating white light on engines, it must be operated both day and night when moving. It may be extinguished when meeting trains, passing trains, or during switching operations providing movement does not involve public crossings at grade. The same requirements apply when leading end of engine or top of lead unit is equipped with an amber or white light that either revolves or flashes.

Rule 18 (A). Oscillating or Flashing Red Light. On engines equipped with a red oscillating or flashing red light, such light must be displayed by day or night when train is stopped suddenly under circumstances in which adjacent tracks may be fouled, when head end protection is required, or when a condition is known to exist which endangers movement. Such red light is a signal for an approaching train on the same or adjacent track to stop at once and proceed only after ascertaining that track is safe for passage of trains.

Display of these lights does not modify the requirements of Rule 99 or Rule 102. The red light must be extinguished when no longer required.

Rule 19. Markers. A prescribed marker will be displayed at the rear of every train to indicate the rear of the train. From one hour before sunset to one hour

after sunrise, when weather conditions restrict visibility to less than one half-mile and at times prescribed by special instructions, the marker must be illuminated either steady or flashing. Markers will be white or in the red-orange-amber color range. When an engine is operating as a train without cars, or at the rear of a train, the trailing headlight illuminated on dim may be used as a marker. Flags may be used during daylight one hour after sunrise to one hour before sunset.

A train may proceed without a marker to the next forward location where the marking device can be repaired or replaced if—

- The marker becomes inoperative en route.
- A defective car is placed at the rear for movement to a car repair point.
- The rear portion of the train is disabled and the prescribed marker cannot be displayed on rear car of portion to be moved.

The marker must be inspected at each crew change point to ensure that it is properly displayed. When a crew leaves a portion of their train, they must not handle a caboose as the rear of the head portion which would indicate that the train is complete.

Rule 24. Engine Identifying Number. On trains, the engine number must be illuminated on engines equipped with number lights. When an engine consists of more than one unit or when two or more engines are coupled, the number of one unit only will be illuminated and will be the identifying number. When possible, the number of the leading unit must be used.

Rule 25. Signs Protecting Equipment. When a sign reading “STOP — TANK CAR CONNECTED,” “STOP MEN WORKING,” “PERSONNEL WORKING,” “SERVICE CONNECTIONS,” or similar warning signs are displayed on a track or car, the car must not be coupled to or moved. Other equipment must not be placed on the same track which would block or reduce the view of the sign.

Rule 26. Blue Signal Protection of Workmen. The following terms and definitions apply when used in Rule 26:

Blue signal — A clearly distinguishable blue flag or blue light by day and a blue light at night. The blue light may be displayed either steady or flashing. When attached to the operating controls of an engine, it need not be lighted if the inside of the cab area of the engine is sufficiently lighted so that the blue signal is clearly distinguishable.

Car shop repair track area — One or more tracks, within an area in which the testing, servicing, repair, inspection, or rebuilding of railroad rolling equipment is under the exclusive control of mechanical department personnel.

Effective locking device — A lock that can be locked or unlocked only by the craft or group of workmen applying the lock when used in relation to a manually operated switch or a derail.

Engine servicing track area — One or more tracks, within an area in which testing, servicing, repair, inspection, or rebuilding of engines is under the exclusive control of mechanical department personnel.

Group of workmen — Two or more workmen of the same or different crafts assigned to work together as a unit under a common authority and who are in communication with each other while the work is being done.

Rolling equipment — Engines, railroad cars, and one or more engines coupled to one or more cars.

Switch providing direct access— A switch which, if traversed by rolling equipment, could permit that rolling equipment to couple to the equipment being protected.

Workmen — Railroad personnel assigned to inspect, test, repair, or service railroad rolling equipment, or their components, including brake systems. Train and yard crews are excluded, except when assigned to perform such work on railroad rolling equipment that is not part of the train or yard movement they handle.

NOTE: “Servicing” does not include supplying cabooses, engines, or passenger cars with items such as ice, drinking water, tools, sanitary supplies, stationery, or flagging equipment. “Testing” does not include visual observations made by personnel positioned inside or alongside a caboose, engine, or passenger car.

(1) A blue signal signifies that workmen are on, under, or between rolling equipment and that the equipment must not be coupled to or moved, except as provided in Items (5) and (6) of this rule.

Rolling equipment must not pass a blue signal on a track protected by that signal. Other rolling equipment must not be placed on the same track in such a way to block or reduce the view of the blue signal, except on designated engine servicing area tracks, car shop repair area tracks, or when a derail is used to divide a track into separate working areas. When a blue signal is displayed at the entrance to a track, rolling equipment must not enter that track.

Blue signals must be displayed by or for each craft or group of workmen who are to work on, under, or between rolling equipment. Signals may be removed or discontinued only at the request of the same craft or group who placed them or requested their use. When blue signal protection has been removed from one entrance of a double-ended track or from either end of rolling equipment on a main track, that track is no longer under blue signal protection.

(2) When workmen are on, under, or between rolling equipment, and such work subjects them to the danger of personal injury posed by any movement of such equipment, protection must be provided. On a main track a blue signal must be displayed at each end of the rolling equipment. On any track other than main track, one of the following methods of protection or a combination thereof must be provided:

- Each manually operated switch, including trailing point crossover switch, providing direct access must be lined against movement to that track, secured by an effective locking device, and a blue signal must be placed at or near each switch. The facing point

crossover switch must be lined against a crossover movement and secured by an effective locking device.

- A derail which can restrict access to that portion of track where work will be performed must be locked in derailing position with an effective locking device. It must be positioned 150 feet from the rolling equipment to be protected, or positioned 50 feet from the end of rolling equipment on a designated engine servicing track or car shop repair track where speed is limited to 5 mph.

- A blue signal must be displayed at each derail or where remote control switches provide direct access. The person in charge of the workmen must notify the person in charge of the switches of the work to be performed. The person in charge of such switches will then inform the workmen that the switches involved have been lined against movement to that track and devices controlling the switches have been secured. The individual in charge of remote control switches must not remove the locking devices unless he has been informed by the person in charge of workmen that it is safe to do so.

The individual in charge of remote control switches must keep a written record of each notification for 15 days. This record must contain the-

- Name and craft of the person in charge requesting the protection.

- Number or other designation of the track involved.

- Date and time person in charge of workmen notified that protection has been provided.

- Date, time, name, and craft of the person in charge of workmen authorizing removal of the protection.

(3) Also, when workmen are on, under, or between an engine or rolling equipment coupled to an engine, a blue signal must be attached to the controlling engine at a location where it is readily visible to the engineer or person at the controls of that engine.

(4) When emergency repair work is to be done on, under, or between an engine or rolling equipment coupled to an engine, and a blue signal is not available, the engineer or person at the controls of the engine must be notified and appropriate measures must be taken to protect the person performing such work.

(5) An engine must not enter a designated engine servicing area track under the exclusive control of mechanical forces unless blue signal protection governing entry is removed. The engine must stop short of coupling to another engine. An engine must not leave designated engine servicing area track unless blue signal protection is removed from that engine and from the track in the direction of movement. Blue signal protection removed from track for the movement of such engines must be restored immediately after the engine has entered or has cleared the area.

An engine protected by blue signals may be moved on a track within the designated engine servicing area under the exclusive control of mechanical forces when operated by an authorized person under the direction of the person in charge of workmen. This may be done

after the blue signal has been removed from the controlling engine to be repositioned and the workmen have been warned of the movement.

(6) Rolling equipment protected by blue signals on car shop repair tracks under the exclusive control of car department forces may be repositioned with a car mover. Workmen must be warned of the movement. The car mover must be operated by an authorized person under the direction of the person in charge of the workmen.

Rule 27. Improperly Displayed. A signal improperly displayed, the absence of a fixed signal where a signal is usually shown, or the absence of a flag or sign where required is regarded as the most restrictive signal indication given, except when semaphore arm is displayed. When semaphore is displayed, it will govern. Improperly displayed signals or absence of fixed signals, flags, or signs must be promptly reported to train dispatcher.

Rule 28. White Flag. A white flag or a white light must be used to stop a train to receive traffic only at the flag stations indicated on its schedule or in special instructions.

Rule 29. Acknowledge Stop Signal. When a signal, except fixed signal, is given to stop a train it must be acknowledged. When flagged, the engineer must obtain a thorough explanation from the flagman before proceeding.

Rule 34. Observe and Call Signals. Crew members in the control compartment of the engine must be alert for, and communicate to each other in a clear and

audible manner, the name or aspect of each signal affecting the movement of their train as soon as it becomes visible or audible. They must continue to observe signals and call any change of indication until passed.

If prompt action is not taken to respect the signal, other crew members must remind the engineer or conductor of the rule requirement. If there is no response, or the engineer is incapacitated, other crew members must take immediate action to ensure safety. Crew members may use emergency brake valve to stop the train if necessary.

SUPERIORITY OF TRAINS

Rule 70. Right, Class, Direction. A regular train is superior to another regular train on single track by right, class, or direction. On multiple main tracks a regular train is superior by right or class. An extra train is made superior to another train only by train order. Extra trains have no superiority by class or direction. Right is conferred by train order; class and direction by timetable. Right is superior to class and direction.

Rule S-71. Class and Direction. First class trains are superior to second class trains and extras. Second class trains are superior to opposing extras. Regular trains in the direction specified in the timetable are superior to trains of the same class in the opposite direction.

Rule 71(A). Multiple Main Tracks. On multiple main tracks, first class trains are superior to second class trains and extras in the same direction.

MOVEMENT OF TRAINS AND ENGINES

Rule 80. Communication Identification. When personnel initiate communication by telephone or radio, they must give name, location and, when applicable, train or engine number.

Rule 80 (A). Repeat Instructions. Instructions or information received verbally relating to train or engine movements must be repeated by the person receiving such instructions or information.

Rule 81. Initiating Movement. A crew which has not received a clearance or track warrant must be ensured by the train dispatcher that there are no train orders or track bulletins that they must obtain before initiating movement on a main track.

Rule 81 (A). Main Track Authorization. Main tracks must not be occupied unless authorized by one of the following:

- Timetable schedule.
- Rule 93.
- Rule 94.
- Rule 97.
- Rule 97(A).
- Rule 97(B).
- Rule S-227.
- Rule S-250.
- Rule 252.

- Verbal authority from train dispatcher within absolute permissive block (APB) limits, or from control operator within CTC or interlocking limits.
- A proceed indication of a controlled block or interlocking signal within CTC or interlocking limits.
- Rules 400 through 413.

An exception to Rule 81(A) is that when it is necessary to foul or occupy a main track without authority, protection must be provided in both directions as prescribed by Rule 99.

Rule 82. Schedules in Effect. Timetable schedules are in effect for 12 hours after their time at each station unless they are fulfilled, annulled by train order, or abolished by general order for the life of the timetable.

Regular trains more than 12 hours behind either their schedule arriving or leaving time at any station lose both schedule and train order authority. After losing both schedule and train order, regular trains can proceed only when authorized as an extra.

Rule 82 (A). Clearance Initial Station. Except within track warrant control (TWC) territory, a train must not leave its initial station on any subdivision without a clearance, unless authorized by train order, verbal instructions from train dispatcher, or special instructions or general order.

Rule 83. Train Register Requirements. Stations at which train registers are located will be designated in the timetable. At such stations, unless otherwise specified by special instructions or train order, the conductor or engineer of all trains except work extras,

will enter all required information in the train register. When authorized by special instructions or train order, trains may register by ticket when operator is on duty, unless it is necessary to check the register.

The conductor may verbally authorize the operator to enter only the time of departure on the train register. When registering by ticket the operator will enter all information in the train register and report the train to the train dispatcher from the train register.

Rule 83 (A). Check on Superior Trains. Except where superiority of trains is superseded by signal indication or a train has authority to proceed ahead of or against overdue superior trains, a train must not proceed until it has been assured in one of the following ways that all superior trains due have arrived or left:

- Checking timetable and train register.
- Use of timetable and train order Form V.
- Use of timetable and register check on prescribed form, filled out by the conductor or engineer, which must be shown to other crew members.
- Proper identification, either visual or by direct communication between the two crews involved. Identification of a work extra by a restricted train must include confirmation by the work extra's conductor that all of their train has arrived. When a work extra is identified, it must not occupy the main track ahead of the train to which identification was given unless a further understanding has been reached between the two crews involved.

• Verbal information from train dispatcher. This information may be relayed, using the words “Train dispatcher advises (train) (has arrived) (has passed) (station) .”

Rule 83(B). Check on Extras. The train register must not be used by a restricted train as evidence of the arrival or departure of an extra train unless authorized by train order Form W.

Rule 83(C). Delayed Departure. When a train cannot depart at the time registered, the conductor or the engineer must provide protection to ensure that affected trains in the same direction are not allowed to depart without being informed of the delay.

Rule 85. Leaving Main Track. Except where superiority of trains is superseded by signal indication, when a train is superior to another train in the same direction and leaves the main track it must not permit the inferior train to pass without train order authority.

Rule 86. Clearing Same Direction. In automatic block signal system (ABS) territory, an inferior train must be clear of a superior train in the same direction sufficiently in advance to avoid giving a restrictive signal indication to the following superior train. The location of the superior train may be determined by radio or other means of communication. Outside of block system limits, an inferior train must be clear of a superior train at the time the superior train is due to leave the next station in the rear where time is shown.

Rule 86 (A). Instructed to Clear. Within block system limits, a train instructed by the train dispatcher to clear a following train must clear such train enough in

advance to avoid giving a restrictive signal indication to the following train. The location of the following train may be determined by radio or other means of communication.

Rule 86 (B). Work Extra Against Current of Traffic.

On tracks where current of traffic has been established, a work extra must not move against the current of traffic against extras unless protected by train order or a flagman. A work extra moving against the current of traffic must clear the main track not less than 5 minutes before the timetable schedule leaving time or train order waiting time of regular trains moving with the current of traffic on the same track.

Rule S-87. Clearing Opposing Trains. An inferior train must clear the main track not less than 5 minutes before the timetable schedule leaving time or train order waiting time of an opposing superior train.

Rule 87 (A). Protection When Failed to Clear. A train failing to clear the main track by the time required must be protected as prescribed by Rule 99 at that time.

Rule S-88. Take Siding Meeting Point. At meeting points established by Form S-A train order, the train order must specify which train will take siding, except where movements at each end of siding are governed by controlled signals.

Rule 88 (A). Movement Extra Trains. Except in CTC, APB and TWC territory, or within interlocking limits, extra trains will be governed by train orders with respect to opposing extra trains.

Rule 89. Stopping Clear. A train stopping where it may be met or passed must stop and remain not less than 400 feet from the clearance point of facing point switch over which a train may pass, if length of train permits.

Rule 89 (A). Precautions Meeting or Passing. A train required to take siding must stop clear of the switch to be used unless switch is properly lined to leave the main track and must pull in when practicable. If necessary to back in or back out, the movement must be protected by a flagman unless authority for occupancy and protection on main track is otherwise provided. At meeting points, the train holding main track must stop as required by Rule 89, unless the train to be met is clear of the main track and switch is properly lined. An extinguished headlight is not an indication that a train is clear of the main track. A train standing on main track to meet an opposing train must, if practicable, line the switch for opposing train to leave main track. Within ABS, the switch must not be lined until the opposing train has entered the block in advance.

Rule 90. Calling Attention to Restriction. When a train approaches a point where it is to wait, meet, or be passed by another train or is restricted in any manner by train order, track warrant or track bulletin, the conductor must call the attention of the engineer to the restriction when practicable, after passing the last station, but not less than 2 miles from point of restriction. On passenger trains, if radio communication is not available, conductor must sound signal 16(h) after passing the last station, but not less than 2 miles from point of restriction, and engineer must answer by

whistle signal 15(o). Should engineer fail to comply with restriction, the conductor must stop train.

Rule 91. Spacing Trains Same Direction. Outside block system limits, a train must not follow another train which has passed or a train which has been overtaken until 10 minutes after the preceding train has departed.

Rule 93. Yard Limit Rule. Within yard limits, the main track may be used by trains or engines, not protecting against other trains or engines. Engines must give way to trains as soon as practicable upon their approach. Inferior trains and engines must clear the main track at the time a first class train is due to leave the nearest station in the direction of its approach where time is shown. Trains must clear other trains which are superior as prescribed by Rules 86 and S-87.

In ABS territory, information issued by the train dispatcher, either verbally or by message, maybe used to determine when delayed first class trains are due to leave the nearest station where time is shown.

Movements within yard limits must be made at restricted speed, unless the main track is known to be clear by a clear, approach limited, advance approach or diverging clear signal. Movements against the current of traffic must not be made unless authorized and protected by train order, track warrant, yardmaster, or other authorized personnel.

Rule 94. No Superiority of Trains. Between designated points specified in the timetable, trains and engines may use main tracks in either direction not protecting against other trains or engines. All movements must

be made at restricted speed. Within these limits, trains and engines are not required to clear superior trains, but must give way to them as soon as practicable upon their approach.

Rule 97. Authorizing Extras. Extras will be authorized in one of the following ways:

- Train order.
- Numbered clearance as prescribed by Rule 97(A).
- Block signals or verbal authority from control operator where CTC or interlocking rules are in effect.
- Verbal authority from the train dispatcher within APB limits to run with the current of traffic where Rule 251 is in effect.
- Special instructions or general order.
- Rule S-227, where absolute block register is in effect.
- As prescribed by Rules 400 through 413, where TWC is in effect.

Rule 97 (A). Numbered Clearance. The train dispatcher may authorize an extra to move in one direction by a numbered clearance which must show, following the address, the station to which the extra is authorized to run, indicating route if necessary. Such authority may be annulled by train order. The numbered clearance does not authorize the extra to occupy the main track at the originating or terminating station.

Rule 97 (B). Authorizing Work Extra. Work extras must be authorized by train order.

Rule 98. Railroad Crossings, Drawbridges, End of Multiple Main Track. Unless protected by block or interlocking signals, trains and engines must be prepared to stop as they approach railroad crossings at grade, drawbridges, and end of multiple main track. Where protected by stop signs, they must stop before any part of the train or engine passes the stop sign and they will not proceed until route is known to be clear or drawbridge is in position to permit movement.

Where protected by gate, if gate is lined against the route to be used, trains and engines must stop and remain 50 feet from fouling track on conflicting route until the gate is changed to stop position on such route. Where required, gates must be restored to normal position after movement has been completed.

Where required to stop before crossing a railroad crossing at grade and the view on the conflicting route is obscured, a crew member must precede the movement and give signal from the crossing if it is safe to proceed.

Rule 98 (A). Switches at Junctions. The normal position for a junction switch will be for through movement on the subdivision upon which the junction is an intermediate station. Unless protected by block or interlocking signals, a train approaching a junction switch in a trailing point direction, which is normally lined for its movement, must move at restricted speed until leading wheels have passed the switch. Trains must not foul the other main track until it is known that there is no conflicting movement.

Rule 98(B). Stopping Clear of Crossings and Junctions. At a railroad crossing or junction, when practicable, a train or engine must not be stopped at a point where it will interfere with the movement of trains on the other track.

Rule 99. Flagging Rule. When a train is moving on a main track at less than one-half the maximum authorized timetable speed for any train at that location, flag protection against following trains on the same track must be provided by a flagman dropping off single lighted fusees at intervals that will ensure full protection but which do not exceed the burning time of the fusee.

When a train is moving on a main track at the maximum authorized timetable speed or more than one-half the maximum authorized timetable speed for any train at that location, under circumstances in which it may be overtaken by a following train, the flagman must decide if lighted fusees should be dropped. The grade, curvature of track, weather conditions, sight distance, and relative speed of their train to a following train must be considered when deciding if lighted fusees must be dropped. These conditions will govern the use of fusees by the flagman to protect their train.

When a train stops on a main track, and flag protection against following trains on the same track is required, the flagman must immediately go back at least the distance prescribed by timetable or other instructions for that territory, place torpedoes, and leave one lighted fusee. He may then return one-half of

the distance to his train, where he must remain until he has stopped a following train, or is recalled.

When recalled, and safety to the train will permit, he may return, leaving a lighted fusee. If recalled before reaching prescribed distance, he must place torpedoes and leave a lighted fusee. While returning, he must also place single lighted fusees at intervals that do not exceed the burning time of the fusee. When the train departs, a crew member must leave one lighted fusee and, until the train resumes a speed not less than one-half the maximum authorized timetable speed for any train at that location, he must drop off single lighted fusees at intervals that do not exceed the burning time on the fusee.

When required by rules, a flagman must protect the front of the train in the same manner. When a train is seen or heard approaching before the flagman has reached the prescribed distance, he must immediately place torpedoes and continue toward the approaching train, giving stop signals. A flagman must not permit other duties to interfere with the protection of the train. The conductor and engineer must ensure that flag protection is provided for their train, when required. When a train requires protection the engineer must immediately sound whistle signal 15(h) or 15(i) shown in Figure 2. Inability to hear these signals does not relieve crew members from protecting the train.

(1) ***Exceptions to Protection to Rear.*** Flag Protection against following trains on the same track is not required in the following circumstances:

- When the rear of train is protected by at least two block signals or one block signal and one distant signal within block system limits.
- When the rear of train is protected by an absolute block.
- When the rear of train is within interlocking limits.
- When train order or special instructions provide that flag protection is not required.
- When prescribed by Rule 93 or Rule 94.

(2) **Protection Entering Main Track.** Protection against a following train must be provided when necessary outside block system limits, unless otherwise relieved of flag protection, before a train fouls a main track in moving out of a siding or other track.

(3) **Protection on Track Equipment.** Rail detectors and on-track equipment other than engines or cars, must not be depended upon to actuate block signals, interlocking signals, or highway crossing signals and must not be considered under the protection of such signals. Flag protection must be provided when required.

(4) **Protection by Special Instructions.** Effective only on subdivisions where authorized by special instructions, trains will not protect against following extras unless instructed to do so by train order Form F example (4). Protection must be provided to the rear, when required, within the limits of a work extra.

A train dispatcher must not authorize a following extra until trains affected have been instructed by

train order Form F, example (4) to protect rear as prescribed by rule. A train must not permit a following train to pass without train order authority. Trains may pass or be passed by work extras without such authority. When work extras are authorized, all trains operating within the limits must be furnished a copy of the work orders.

(5) ***Specific Flagging Instructions.*** When conditions require that a flagman be sent with specific instructions affecting the movement of a train, such instructions must be in writing. When sent on a train, he must ride the engine and show flagging instructions to the engineer, who must let him off at the location from which protection is to be provided.

(6) ***Acknowledge When Flagged.*** When flagged, the engineer must acknowledge stop signals promptly. Flagman must continue giving stop signals until such signals are acknowledged and acted upon. After stopping, the engineer must be informed of the reason for being flagged and be governed accordingly.

(7) ***Crossing Over or Fouling.*** When a train crosses over to, or obstructs another main track signaled for movement in one direction, flag protection against movements against the current of traffic, as prescribed by rule, must be provided unless advice is received from the train dispatcher that no movements against the current of traffic have been, or will be authorized. When the crew has received this advice they must notify the train dispatcher when their movement is clear of the other main track.

(8) ***Protection in ABS by Lining Switch.*** When a train or engine is within ABS limits and flag protection is

required, such protection may be provided by lining and locking a main track switch against movement on the main track at or beyond the point where the train or engine being protected is going to stop movement or clear the main track. If the switch is located within a block other than the one occupied, movement under this protection must not be made until 5 minutes after the switch has been lined. It must be determined that there is no train or engine between the switch and the train or engine being protected or within, or closely approaching, the block where the switch is located. A flagman must position himself beyond the switch a sufficient distance to enable him to stop a movement approaching at restricted speed short of the train or engine being protected. He must remain in position to prevent the switch from being returned to normal position while the movement is being protected.

(9) ***Protection of Equipment Left on Main Track.*** Crew leaving equipment on the main track will be relieved of providing flag protection for such equipment upon verbal authority of the train dispatcher. The train dispatcher must know that protection is provided. All crews which may use the main track at that point must be notified of the location of the equipment and must move at restricted speed approaching that location. Unless protection is provided by controlled signals, the location of the equipment must be given to crews which may use the main track at that point by train order or track bulletin.

Rule 100. Leaving Portion of Train. When an engine leaves part of its train on the main track, a sufficient number of hand brakes must be set to keep the detached portion from moving. Torpedoes must be

placed one fourth mile in advance of the detached portion to serve as a warning to returning crew members. Unless return movement is otherwise authorized, a crew member must remain to provide protection against movements which may enter main track between detached portion and returning front portion. A detached portion of a train must not be moved or passed until front portion returns, except under full protection.

Rule 101. Precautions Due to Unusual Conditions.

Trains and engines must be protected against any known condition which may interfere with their safety. When conditions exist which may impair visibility or affect condition of track or structure, speed must be regulated to ensure safe passage and to ensure observance and compliance with signal indications.

In case of unusually heavy rain, storm, or high water, trains and engines must be prepared to stop when approaching bridges, culverts, and other points likely to be affected. If unable to proceed safely, movement must be stopped and not resumed until safe to do so. The train dispatcher must be advised of such conditions by the first available means of communication.

Rule 101(A). Protection Against Defects. If any defect or condition which might cause an accident is discovered in track, bridges, or culverts, or if any member of a train or engine crew has reason to believe that their train or engine has passed over any dangerous defect, stop must be made at once, flag protection provided, and train dispatcher notified.

Rule 101(B). Water Above Rail. Trains and engines must not be operated over track submerged in water

until track has been inspected and known to be safe. Engines must not be operated in excess of 5 mph through water above top of rail or through water which exceeds a depth of 3 inches above top of rail unless authorized by mechanical supervisor.

Rule 101(C). Handled Safely. Crew members must be aware of speed of train or engine, grade conditions, and indication of air gauge to determine that train or engine is being handled safely and under control. If necessary they must take immediate action to bring the train or engine under control.

Rule 102. Emergency Stop or Severe Slack Action. When a train or engine is stopped by an emergency application of the brakes, or has had severe slack action incidental to stopping, the following action must be taken:

- If there is an adjacent track which may be obstructed an immediate warning must be given by radio, stating the exact location and status of train or engine. At each end of the train or cars, a lighted fusee must be immediately displayed on the adjacent track, including tracks of other railroads, and flag protection provided in both directions on that track as prescribed by Rule 99, going at least 2 miles if flagging distance is not known. The flagman may be recalled under the following circumstances:

- When it is known that adjacent tracks are not obstructed.

- When control operator has provided protection in CTC or interlocking limits.

—Where there is a current of traffic, flagman protecting adjacent track for movements against the current of traffic may be recalled upon advice from the train dispatcher that no movement against the current of traffic has been, or will be, authorized.

- Inspection must be made on each side of all cars and units and it must be known that equipment and track are in safe condition and that all wheels are properly positioned on the rail before proceeding. A train on an adjacent track receiving radio notification must proceed at restricted speed and stop short of any obstruction or flagman unless advised that the track is clear and it is safe to proceed.

Rule 103. Shoved, Kicked, or Dropped. When cars are shoved, kicked, or dropped over road crossings at grade, a crew member must be in position at crossing to warn traffic until it is occupied, and each movement over the crossing must be made only on his signal.

Such warning is not required when a warning is provided by a watchman or gates known to be functioning; or shoving cars and the forward end of the leading car are equipped with brake valve or backup hose and air whistle handled by a crew member.

Rule 103 (A). Automatic Crossing Devices. When a movement has been delayed or has stopped within 3,000 feet of a road crossing equipped with automatic crossing warning device, the crossing must not be occupied by either a forward or a reverse movement unless a crossing warning device has been operating for 20 seconds to provide warning. If it is not known that such a device has been operating for 20 seconds, a crew member must be on the ground at the crossing to

warn traffic until the crossing is occupied. Crew members must observe all automatic crossing warning devices and report any that are not working properly to train dispatcher or proper authority by first available means of communication and give warning to other movements, unless other means of warning traffic has been provided.

Rule 103 (B). Protecting Adjacent Tracks. When a train or cut of cars is parted to clear a road crossing not protected by a watchman, or is standing near such crossing, a crew member must be in position to warn traffic against trains or engines approaching on adjacent tracks, when practicable.

Rule 103 (C). Clear of Crossing and Circuit. Cars or engines must be left clear of road crossings and crossing signal circuits. When it can be avoided, cars or engines must not be left standing nearer than 250 feet to road crossing.

Rule 103 (D). Actuating Signals Unnecessarily. Automatic crossing signals must not be actuated unnecessarily by open switch or by permitting equipment to stand within controlling circuit. When this cannot be avoided, if the signals are equipped for manual operation, a crew member must manually operate the signal for movement of traffic. A crew member must restore signals to automatic operation before crossing is occupied by a train or engine, or before leaving the crossing.

Rule 103 (E). Handling Ahead of Engine. Except switching movements or when otherwise necessary, cars must not be shoved. When shoving cars, movement must be made at restricted speed unless

movement is controlled by a brake valve on the leading car. When so controlled, and train movement has been authorized in that direction, movement may be made not exceeding 40 mph.

Rule 103 (F). Blocking Public Crossings. A Public crossing must not be blocked longer than 15 minutes when it can be avoided.

Rule 103 (G). Switching Safely and Efficiently. Personnel performing switching must do so efficiently and in a manner which will avoid personal injury, damage to contents of cars, equipment, structures, or other property.

Rule 103 (H). Understanding Between Crews Switching. Where engines may be working at both ends of a track or tracks, there must be an understanding of movements to be made to avoid injury or damage.

Rule 103 (I). Precautions Coupling or Moving. Before coupling to or moving cars or engines, it must be known that they are properly secured and can be coupled and moved safely. Couplings must be made at a speed of not more than 4 mph. Slack must be stretched to be sure that all couplings are made.

Rule 103 (J). Shoving or Fouling. When cars or engines are shoved and conditions require, a crew member must be in a position where he is clearly seen on the leading car or in advance of the movement to provide protection. Cars must not be shoved to foul leads or adjacent tracks until it is safe to do so. Unless protection is provided, cars or engines must not be left standing where they will foul equipment on adjacent

tracks or cause injury to personnel riding on side of car or engine.

Rule 103 (K). Test Hand Brakes. Personnel must know how to operate the type of brakes they are to use. When necessary to control or prevent movement of cars by hand brakes, tests must be performed to ensure that hand brakes are operative before they are used.

Rule 103 (L). Securing Cars or Engines. The air brakes must not be depended upon to hold a train, engine, or cars in place when left unattended. When train, engine, or cars are left standing, enough hand brakes must be applied to prevent movement with air brakes released. If hand brakes are not adequate, wheels must be blocked.

Before an engine is detached from a train or cut off from cars left standing on a grade, slack must be bunched and enough hand brakes must be set on the descending end of the train or cars to secure the detached portion. When the engine is recoupled to the train or cars, the hand brakes must not be released until the air brake system is fully recharged. When cars are moved from any track and other cars are left standing, enough hand brakes must be applied to prevent remaining cars from moving.

Rule 103 (M). Kicking or Dropping. Kicking or dropping of cars will be permitted only when such movement can be made without danger to personnel, equipment, or contents of cars. Before dropping cars, crew members involved must have a full understanding of the movement to be made. The track must be sufficiently clear and switches and hand brakes must be in

working order. The engine must run on straight track when practicable. Cars must not be dropped over spring switches or dual control switches.

Rule 103 (N). Hazardous Materials and High Value Loads. Cars containing hazardous materials, as designated in instructions for handling hazardous materials, and cars designated as high value loads must not be cut off while in motion; struck by any car moving under its own momentum; or coupled to with any more force than necessary to make coupling.

Rule 103 (O). Cars Being Loaded or Unloaded. Before coupling to or moving cars on tracks where cars are being loaded or unloaded, platforms, boards, tank car couplings and connections, conveyors, loading or unloading spouts and similar appliances or connections, vehicles, and other obstructions must be removed and clear; plug-type and swinging doors on cars must be closed and secured. Persons in, on, or about cars must vacate cars before they are switched. Exercise care to avoid damage to lading of partially loaded cars.

If cars are known to be improperly or unevenly loaded to the extent that there is danger of the load shifting or falling from car, car derailling, or overturning they must not be handled. In loading or unloading cars, employees must take precautions to prevent the load from becoming unevenly distributed to the extent that there is danger of the car overturning or derailling. Any car that has been placed for loading or unloading, which has not been released for movement, must be returned to original location unless otherwise directed.

Rule 103 (P). Switching Passenger or Occupied Cars.

Before switching passenger equipment or occupied outfit cars, air must be coupled and brake system charged. Automatic brake valve must be used in such switching. When coupling is made, couplers must be fully compressed and stretched to know that knuckles are locked before making air, steam, and electrical connections.

Utmost caution must be used to avoid rough handling. Passenger cars or similar equipment or occupied outfit cars must not be cut off while in motion and no car moving under its own momentum shall be allowed to strike them. When a sign reading "OCCUPIED OUTFIT CARS" is attached to switch, or to cars, cars must not be coupled to nor moved until occupants have been notified and permission given by the foreman or his representative.

Rule 103 (Q). Additional Switching Precaution. The following equipment must not be unnecessarily switched with nor couplings made in a manner that may cause damage to equipment or load:

- Passenger or outfit cars.
- Intermodal or TOFC cars.
- Cabooses.
 - Multi- level loads.
- Cars containing livestock.
- Open top loads subject to shifting.

Rule 103 (R). Movement Through Gates or Doorways.

Before engines or cars are moved through gates, doorways, or similar openings, they must stop. Gates, doorways, or openings must be completely open and

secured before engines or cars pass through them. There must be enough overhead or side clearances to allow safe passage.

Rule 103 (S). Necessary Brakes Charged. Cars must not be handled without air brake system charged unless they can be handled safely and stopped within required distance. If necessary, sufficient number of cars must have air hoses coupled and brake systems charged to permit controlling movement.

Rule 103 (T). Movements into Spur Tracks. Movements into spur tracks must be controlled to prevent damage at end of the spur. When shoving cars into a spur track, movement must be stopped 150 feet from the end of the spur and further movement must be preceded by a crew member when it can be done safely. Movement must be made only on his signal.

Rule 104. Hand Operation of Switches. When spring or dual control switches are operated by hand, they are considered hand operated switches. The rules governing hand operated switches apply to them, except that cars must not be dropped over them.

Rule 104 (A). Position of Switches. The person handling the switch or derail is responsible for the position of switches or derails being used. When practicable, crew members on the engine ensure that switches and derails near the engine are properly lined. Personnel handling switches and derails ensure that they are properly lined for the route to be used. The points must be properly lined and the indication of target or lamp, if so equipped, must correspond with the position of the switch. When the operating lever is equipped with a latch, personnel must not step on latch to release the

operating lever except when throwing the switch. After locking a switch or derail, the lock must be tested to know it is secured.

Rule 104 (B). Main Track Switches. The normal position of a main track switch is for main track movement and it must be left lined and locked in that position. Exceptions in which it may be left open are-

- In CTC territory to hold track and time limits.

Ž When attended by a crew member or switch tender.

- During switching operations when it is positively known that no other train or engine will pass over the switch.

- For another train or engine when attended by a member of that crew.

Ž Within ABS limits, at meeting or passing points, trains operating without a caboose may leave siding switch, lined and locked for siding. Train using main track must stop and crew members must line and lock the switch in normal position.

On main track switches so equipped, the target will show red when lined in other than its normal position.

Rule 104 (C). Crossover Switches and Switches in Sidings. The normal position of switches connecting any track, except main track, to a siding is lined and locked or secured for movement on the siding. The normal position of crossover switches is lined for other than crossover movement. They must be lined in the normal position except when changed for immediate movement through them.

Rule 104(D). Approaching Movements. Other tracks must not be fouled nor switches operated when conflicting movement is closely approaching switch. Except at spring switches, trains must not foul a main track or signalled track or pass beyond insulated joints at clearance point until switches connected with the movement are properly lined. Crossover switches must not be unlocked or lined for crossover movement when there is another movement approaching or passing over either switch.

Rule 104 (E). Equipped With Locks, Hooks. When not in use, switches equipped with locks must be locked, and switches equipped with hooks or latches must be hooked or latched. For movement in either direction over such switches, switch must be latched or secured by placing lock or hook in hasp. For train movement in facing point direction, switches equipped with a lock must be locked. If a switch lock is missing or defective, it must be replaced. If this cannot be done, the switch must be spiked and reported at once to the train dispatcher or, when in the yard, to the yardmaster or supervisor in charge.

Rule 104 (F). Clearing Main Track. A train or engine leaving a main track must clear the main track before stopping for the trainman who is attending the switch. The switch must not be restored to normal position until the train is entirely clear of the main track.

Rule 104 (G). Restoring to Normal Position. Personnel alighting from moving equipment in order to restore the main track switch to normal position must, when practicable, get off on the opposite side of the equipment from the switch stand.

Rule 104 (H). Lining Main Track Switch. After lining a main track switch for a train to enter or leave the main track, the person attending the switch must go to the opposite side of the main track, when practicable, and must not return to the switch stand until the movement has been completed. When it is not practicable to go to the opposite side of the main track, personnel will stand 20 feet from the switch stand.

Rule 104 (I). Clear of Main Track. Except in switching movements, when a train or engine is approaching or passing on a main track, personnel must be 20 feet from any main track switch. When a train or engine is on a siding or other track to be met or passed, the person who is to attend the switch must be 150 feet from the switch to be used while the expected train is closely approaching.

Outside block system limits, if the expected train is not closely approaching, a crew member will inspect facing point switches over which the expected train will pass to determine if the switches are lined for the route to be used, that the switch points fit properly, and that the switch lever is secured.

Rule 104 (J). Switches Run Through. Switches, other than spring switches or variable switches, must not be run through. If a rigid type switch is run through, it is unsafe and must be protected. The switch must be spiked unless a trackman or other competent employee takes charge at once. If an engine or car partially run through such a switch, the entire movement must be continued. Reverse movement must not be made over the damaged switch until it has been spiked or repaired.

Rule 104(K). Scale Track Switches. Scale track switches must be lined for dead rails, where provided, when scales are not in use.

Rule 104 (L). Derails. Personnel in train, engine, and yard service must know the location of all fixed derails. Controlled movements must not be made over derails in derailing position. Except when placed in non-derailing position to permit movement, derails must be in derailing position with or without cars on the track they protect. Those equipped with a lock must be locked.

Rule 104 (M). Spring Switches. Spring switches are identified by letters "S", "SS," special targets, signs, or lights. Facing point movements over spring switches will be protected by signals or indicators where required. When signal governing movement over a spring switch displays Stop or Stop and Proceed indication, when indicator displays Stop and Inspect Switch indication, or when switch is not protected by signal or indicator, the train or engine making facing point movement must stop. A crew member must test the switch, unless the switch has been lined for diverging route or the crew has been advised by train order or track bulletin that the spring switch has been spiked. The test must be made by lining the switch over and back by hand and examining the switch points to see that they fit properly.

(1) ***Trailing Through and Stopping.*** A train or engine trailing through and stopping on a spring switch must control slack and the switch must be lined by hand before making a reverse movement or taking slack.

(2) **Stopped by Signal.** When a train or engine is stopped by a signal governing trailing point movement through a spring switch and no conflicting movement is evident, the switch must be operated by hand for the route to be used unless the signal can be cleared by operating key release. If the switch equipped with a facing point lock is operated by hand, it must not be lined and locked in normal position until after movement has been completed.

If the switch is not equipped with a facing point lock, it may be lined and locked in normal position after the leading wheels have passed the fouling point. The location of spring switches equipped with facing point locks may be designated in the timetable or general order.

(3) **Original Position.** When practicable, trainmen should make sure that spring switch has returned to original position after being trailed through.

(4) **Snow, Ice Storms.** During snow storms, ice storms, or other conditions that may prevent a spring switch from functioning properly, a trailing movement must not be made through the spring switch until it has been lined by hand for the movement.

(5) **Trailing Movement Facing Point Lock.** When a trailing movement is to be made over a spring switch equipped with a facing point lock and the initial movement of switch points is not to be actuated by the engine, the switch must be lined by hand for the movement and must not be returned to normal position until movement has been completed.

(6) **Spiking Spring Switch.** If necessary to spike a spring switch, it must be protected.

Rule 104 (N). Damaged or Defective Switch. If a switch is damaged, a report must be made to the train dispatcher or, in yards, to the yardmaster or supervisor. The switch must be spiked unless a trackman takes charge at once. If it cannot be made safe, protection must be provided.

Rule 104 (O). Use of Sand. Manual sanding should not be used over movable parts of an interlocking, retarders, spring switches, variable switches, or power operated switches when practicable to avoid it.

Rule 104 (P). Protection in Bowl Tracks. Before a train or yard crew member couples air hoses, adjusts coupling devices, or performs maintenance on bowl track during humping operations, protection against cars being released from the hump into the track must be provided as follows:

- An individual must notify the person controlling the switches which provide access from the hump to the track on which such work is to be performed.

- Upon such notification, any remotely controlled switch must be lined against movement to the affected bowl track and personnel must ensure that a locking or blocking device, or reminder, is applied to the control for that switch.

- The person must then be notified that the required protection has been provided and such protection shall be maintained until he advises that work is completed and protection is no longer required.

Rule 105. Movement Other Than Main Track. Except on track where a block system is in effect, trains or engines using other than main track must be prepared

to stop within one half the range of vision short of train, engine, railroad car, stop signal, derail, or switch not properly lined.

Rule 105 (A). Sidings of Assigned Direction. Sidings of an assigned direction must not be used in a reverse direction unless authorized by the train dispatcher or in an emergency under flag protection.

Rule 105 (B). Clear in Siding. When practicable, a train entering a siding must not stop until the entire train is in the clear.

Rule 105 (C). Cars Left on Siding. Cars must not be left on sidings unless authorized by train dispatcher except in emergency, in which case the train dispatcher must be promptly notified.

Rule 106. Responsibility of Trainmen and Enginemen. The conductor and the engineer are responsible for the safety and protection of their train and the observance of the rules. Under conditions not provided for by the rules, they must take every precaution for protection.

(1) The general direction and government of a train is vested in the conductor. When trains are combined, if there is more than one conductor, the conductor with the most seniority will be in charge and all persons working on the train must obey his instructions. Personnel will not comply with any instructions which imperil the safety of the train or involve a violation of the rules. Should there be any doubt as to authority for proceeding, or safety, the conductor must consult the engineer. The engineer is equally responsible for the safety and proper handling of the train.

(2) Conductors and engineers must know that their subordinates are familiar with their duties, know the extent of their experience and knowledge of the rules, and instruct them, when necessary, in the proper and safe performance of their work.

(3) When the conductor is not present, trainmen must promptly obey the instructions of the engineer relating to rules, safety, and protection of the train.

(4) Other crew members, after carefully reading train orders, track warrants, or track bulletins must keep them in mind and assist in their observance. They must immediately call the attention of the conductor or engineer to any apparent failure to observe their requirements, to clear the main track as required, or to comply with rules and instructions. When the safety of trains and observance of rules are involved, other crew members are responsible to the extent of their ability to prevent accident or violation of rules. When the conductor or engineer fails to take action to stop the train, and an emergency requires, other crew members must take immediate action to stop the train.

(5) The conductor must advise the engineer and dispatcher of any restriction placed on equipment being handled.

Rule 106 (A). Maximum Speed. Conductors and engineers are jointly responsible for ensuring the maximum authorized speed for the operation of their train or engine and such speed must not be exceeded. Passenger speed is applicable only to trains consisting entirely of passenger equipment. When possible to do so, personnel must promptly advise the train

dispatcher of any known condition that will delay or prevent the train from making usual speed.

Rule 107. Receiving or Discharging Passengers. When a passenger train is receiving or discharging traffic, a train or engine must not pass between it and the station platform unless safeguards are provided.

Rule 108. Safe Course. In case of doubt or uncertainty, the safe course must be taken.

Rule 109. Inspection Passing Trains. Personnel must inspect passing trains for any dangerous conditions. If any dangerous conditions are detected (such as overheated journals, brakes sticking, wheel sliding, dragging equipment, or insecure lading), they must give stop signals to crew members on passing train and, in addition, advise them of the condition by any other available means. When practicable, the train dispatcher must be notified at once if train does not stop. If no defect is detected, they will give the proceed signal. When practicable, the crew member on the engine must advise the crew on the rear of the train by radio when train is being inspected by other personnel or track side warning detector.

Crew members must be on the lookout for track side warning detectors and signals from persons inspecting their train. If a stop signal is received, a track side warning detector activated, or attention called to a dangerous condition, the train must be stopped immediately and inspected, and determined that it is safe for movement before proceeding.

When a train stops to be met or passed by another train, trainmen on the head end, and a fireman if

available, must inspect the passing train from the ground. If it is safe to do so, a crew member must cross the track and inspect the side opposite his train.

Rule 109 (A). Train Inspection. Crew members must make walking or roll-by inspection of the train when practicable. When the train stops en route, walking inspection of the train must be made as time will permit.

Crew members must frequently inspect their train while moving and watch for signals and indications of defects in track and train, especially on curves and approaching switches. When inspecting standing or moving train, crew members must observe the train closely for overheated journals, sticking brakes, sliding wheels, improperly positioned wheels on rail, dragging equipment, insecure lading, signs of smoke or fire, or any other dangerous condition. If defects are discovered while the train is moving, it must be stopped promptly. Any defect found must be corrected if possible. When it is necessary to set out defective car, no attempt will be made to move the car to the set out point until making certain that it is safe to do so.

When a car is set out due to the hot box, all fire must be completely extinguished, the box lid closed, and precautions taken to prevent further ignition. When cars are set out due to defects, the cars and their lading must clear other tracks.

Rule 109 (B). Inspection Other Movements. The requirements for the inspection of trains in Rule 109 and Rule 109 (A) will also apply to other movements except when switching.

Rule 109 (C). Trackside Detectors. Trackside warning detectors do not relieve personnel from making inspections required by rules. When a wide load detector is actuated at a point where an adjacent track may be obstructed, crew must provide protection as prescribed by Rule 102.

Rule 151. Movement Double Track. On double track, trains must keep to the right unless otherwise instructed.

Rule 152. Movements Against the Current of Traffic. Movements against the current of traffic must be authorized by train order or track warrant except as provided by Rules 93 and 94. Trains and engines moving against the current of traffic must be prepared to stop when approaching interlocking and facing point spring switches, unless the track is clear, switches are properly lined, and signals indicate proceed. This will not apply at a spring switch outside of interlocking limits if the crew has been advised by the train dispatcher that the switch has been spiked in normal position.

Rule 153. Multiple Main Tracks. Where multiple main tracks are in service, each main track will be designated by name or number. When necessary, the use of tracks will be indicated in the timetable.

TRAIN ORDERS

This chapter gives rules pertaining to movement by train orders, the prescribed forms for train orders, and their use.

MOVEMENT BY TRAIN ORDERS

Rule 201. Authority, Brevity, Accuracy. For movements requiring their use, train orders will be issued by authority and over the signature of the train dispatcher. Train orders contain only the information or instructions essential to such movements. They must be brief and clear, in prescribed form when applicable, without erasure, alteration, or interlineation. Train orders will be plainly written and figures must not be surrounded by brackets, circles, or other characters. Each train order must be given in the same words to all personnel addressed.

Rule 202. Initials Under Last Word. The initials of the train dispatcher will be placed directly under the last word in the body of the order. Additions to train orders must not be made after they have been completed.

Rule 203. Numbering Orders. Train orders, except Form Q and those relating to track conditions, structures, and equipment must be numbered consecutively

from the beginning of each calendar date. Train orders Form Q and those relating to track conditions, structures, and equipment must be numbered consecutively regardless of date, under a separate series of numbers designated by the chief train dispatcher. For example, begin with 501 and continue through 599, then repeat.

Rule 204. Addresses. Train orders showing number, date issued, and place copied must be addressed to those who are to execute them. Those for a train must be addressed to the conductor and engineer. A legible copy must be furnished to each person addressed, including each engineer and pilot.

Train orders for engines may be addressed to "YARDMASTER," to "C&E YARD ENGS" or to "C&E ENG_____." Train orders addressed to operators affecting the movement of trains must be respected by conductors and engineers the same as if addressed to them. Train orders delivered to the crew of a train which will later change direction or identity will be addressed using the identification of the train at the point where the orders are received.

Rule 205. Designation of Trains. In train orders and clearances, regular trains will be designated by number as "NO 10," adding engine number in train orders when known. Extra trains, except work extras, will be designated by engine number and direction as "EXTRA 798 EAST." Work extras will be designated by engine number as "WORK EXTRA 798."

When an engine of another company is used, it will be designated by the initials or name of the Company

preceding the engine number. When two or more extras are mentioned in the train orders, the word "TWO" or "THREE," depending on number, must be used, such as "ENG 210 AND ENG 460 RUN AS TWO EXTRAS" or "MEET THREE EXTRAS 798 AND 799 AND 800 NORTH."

Rule 206. Signal to Copy. To transmit a train order, the word "copy" followed by the number of copies and direction must be given to each office addressed as "Copy 5 North" or "Copy 7 West."

At a station equipped with a train order signal, when there are no train orders to be delivered, the train order signal must display Clear, except at interlocking stations. Before an operator copies a train order, except at a station where the train addressed originates and is required to receive a clearance at that station, he must immediately display the train order signal at Stop and advise the train dispatcher "SD" (Stop displayed), adding direction.

When a train order signal is displayed at Stop to deliver train orders, the signal must not be changed to Clear until such orders have been copied and delivered or annulled. It may be changed to Clear upon instructions of the train dispatcher if no orders have been transmitted.

At a station not equipped with a train order signal, when the operator has been instructed to copy a train order, if communications fail before instructions are complete, all trains addressed, or all trains in that direction must stop and not proceed until communication is reestablished.

Rule 206 (A). Train Order Signals at Interlocking Stations. Except where the train order signal is equipped with a flashing light, train order signals at interlocking stations must be kept at Stop until the route is lined and the interlocking signals cleared to permit movement. At that time, the train order signal will be changed to Clear if there are no train orders on hand for delivery.

Rule 207. Transmitting and Repeating. When verbally transmitting and repeating train orders and clearances, numbers over ten must first be pronounced, then each figure stated separately. Numbers less than ten will be pronounced then spelled. Station names and directions must be pronounced, then spelled.

Rule 208. Writing Train Orders. Operators must not write any part of a train order until it has been transmitted by the train dispatcher. When train orders are typewritten the letters must be capitalized. Operators receiving train orders must make the required number of copies during transmission, when practicable. A copy of each train order must be kept in the office file.

Rule 208 (A). Recopying Orders. Except as provided in Rule 208(B), when the required number of copies of a train order cannot be made during transmission, operators must make additional copies from one previously repeated. They must then repeat to the train dispatcher from the new copies each time additional copies are written. Such copies must show the original time and date they were made complete and

the name of the operator who recopied the order. The operator's name will not be entered until the order has been repeated and "OK" received. A copy of each writing of such orders must be kept, showing the time and date the order was repeated, for example "repeated (time and date)." The train dispatcher must note the time and date of each repetition and station from which the order was repeated in the train order book.

Rule 208 (B). Duplication. Train orders may be duplicated mechanically.

Rule 209. Transmitting Simultaneously. A train order to be sent to two or more operators must be sent simultaneously to as many of them as possible. When not sent simultaneously to all, the train order must be sent first for the train being restricted. When a train order has been transmitted, operators must, unless otherwise directed, repeat it at once from their copies in the succession in which the operators were addressed. Unless excused by the train dispatcher, each operator receiving the train order must observe whether the others repeat correctly, calling attention to any discrepancy.

When a train order has been repeated correctly, the train dispatcher will respond "complete" and give the time and train dispatcher's initials. The operator will show "complete" in the space provided, the time, and his last name. He must repeat the word "complete" and the time to the train dispatcher and, unless otherwise provided, deliver a copy to each person addressed. "Complete" must not be given to a train order for other trains until complete has been given and

acknowledgment received from the operator copying the order for the train being restricted.

Rule 209 (A). Error in Transmitting. When an error is made in transmitting a train order before it has been made complete, all copies must be immediately destroyed, the order marked "void" in the train order book, and if reissued, given another number.

Rule 209 (B). Mechanical Transmission. At points designated by special instructions, train orders and clearances may be transmitted mechanically. When so transmitted, repetition of train order and clearance will not be required. Complete time on train order and OK time on clearance will be given at the time transmitted and the name of the train dispatcher will be shown instead of an operator when not relayed through an operator.

Train orders restricting a train must not be sent in this manner unless it is known that the train being restricted will not leave the point without receiving the train order. Special instructions will prescribe how train orders are to be delivered at these points.

Rule 210. Relaying. To relay a train order, the train dispatcher must transmit it to the relaying operator. The relaying operator must repeat the order to the train dispatcher and then transmit it to destination. The person receiving it at destination must, after obtaining the signature of the conductor or engineer when required, repeat the order to the relaying operator. The relaying operator must underscore each word and number as repeated on his office copy. The relaying operator will then inform the train dispatcher that the order has been copied and repeated correctly.

Complete will be given by the train dispatcher and relayed to destination, and acknowledgement of complete relayed to train dispatcher.

The relaying operator may transmit train orders and clearances mechanically to authorized points, as prescribed by Rule 209(B). In this case the orders and clearances will be repeated by the relaying operator before they are transmitted to destination.

Rule 211. Previous Date. When a train dispatcher must transmit a train order of a previous date, he will inform the person receiving the order of the original date which should be placed in the proper space on train order form. When complete time is given, the date the order is completed will be transmitted by the train dispatcher and the person receiving the order will write or typewrite the current date with complete time.

Rule 212. Checking Correctness. Immediately upon receipt of clearances and train orders, they must be carefully checked for correctness by those addressed and then by other crew members. They must be properly addressed and order numbers on the clearance must correspond with the orders received. All crew members must comply with the requirements of train orders and remind each other of their contents. Any errors, omissions or misunderstanding of a train order or clearance must be immediately corrected. Unless authorized by the train dispatcher, operators may not divulge information in train orders to be delivered and train orders may not be acted upon by other than those addressed, except as provided in Rule 204.

When an error has been made in the date or address of a clearance and it is not necessary to change the train orders, the clearance may be corrected verbally on the authority of the train dispatcher in the following manner: "Clearance to C&E (train) at (station) OK'd at (time) dated (date) should read (correct address or date) instead of (incorrect address or date) ." These words must be repeated by the conductor or engineer of train holding clearance and notation of correction and time it was made should be written on the margin of clearance without otherwise altering the clearance. The conductor and engineer must inform other crew members of the correction made. Record of correction must be made by train dispatcher.

Rule 213. Train Orders in Effect. Train orders made complete continue in effect until fulfilled, superseded, annulled, or voided. Any part of an order specifying a particular movement may be superseded or annulled. A train order is fulfilled by complying with its requirements.

Except as provided by Rule 214, orders held by or issued for a train, or any part of an order relating to a train become void when such train loses its authority to operate as a train. This could happen when a regular train loses its authority as provided by Rule 4 or Rule 82, when its schedule is annulled, or when an extra train's authority is fulfilled or annulled.

Rule 214. Retaining Train Orders. Train orders Forms K, Q, T, V, and orders relating to track conditions, structures, or equipment, must be retained and complied with on all trips made during the tour of duty on

which such orders were received, unless they are annulled. Other train orders will be retained and complied with when authorized by a train order reading "RETAIN AND OBSERVE ORDER NO _____, NO _____, AND NO _____."

Rule 215. Relieved During Trip. When a conductor or engineer, or both, is relieved before completion of a trip, all train orders, clearances, and instructions held by them must be delivered to the relieving conductor or engineer. Such train orders, clearances, and instructions must be compared by the relieving conductor and engineer before proceeding. If they cannot be personally delivered to the relieving crew, the conductor will leave them in an envelope at a location designated by the train dispatcher. The envelope must show the correct designation of the train, date, location, and conductor's signature.

If the train dispatcher annuls the train orders all such train orders and clearances must be removed from the engine and caboose by the crew being relieved.

The train dispatcher must tell the relieving crew where they will pick up train orders before they leave their terminal. Train orders, instructions, and pertinent information must be compared by the relieving conductor and engineer, and with the train dispatcher where communication is available, before proceeding.

Rule 216. Issued at Point Restricted. Except at initial stations, a train order must not be issued restricting a train at the point where the order is to be delivered if it can be avoided. When it cannot be avoided, the train

order must state: “ (train) GETS THIS ORDER AT (station) . ” The train being restricted must be stopped by the operator using flagman's signals, if necessary, short of the point where time applies at that station, before the train dispatcher may OK the clearance for the restricted train.

When time at that station in a wait order expires before the arrival of the restricted train or before the train being advanced to the meeting or waiting point has arrived, cleared the main track, and train dispatcher is notified, the train dispatcher may OK the clearance and the train order may be delivered without stopping the train. A train advanced to a station where opposing train receives the order must approach that station at restricted speed expecting to find train receiving the order on main track.

Rule 217. Delivery Near Point Restricted. When a train order restricts a train at a point less than five miles from the station at which delivery of the order is to be made, the operator must be instructed to stop the train before delivering the order, using flagman's signals, if necessary.

Rule 218. Delivery Orders. A train order to be delivered to a train at a point other than a train order office, or at a point where the office is closed must be addressed to “C&E _____ AT (or BETWEEN) _____ CARE OF _____” and forwarded and delivered by the person in whose care it is addressed who is responsible for its delivery.

When delivery is to be made by the conductor or engineer of another train, the numbers of such orders must be shown on the clearance of the train making

delivery and both the conductor and engineer must be supplied with copies. If necessary, the train must be stopped to effect delivery. Clearance addressed in the same manner as a train order must accompany the order to be delivered. Such clearance does not authorize the train to which the order is sent to pass a train order signal displaying Stop at the station from which clearance was sent. Train orders must not be sent in this manner restricting a train unless combined or delivered with the authority for that train to operate.

Rule 219. Restricting Orders Requiring Signature.

Under the following conditions, a train order restricting a train must not be repeated until the operator has obtained the signature of the conductor or engineer on the train order. A train order must not be signed until both the conductor and engineer understand that their train will be restricted in the following conditions:

- When a train has received a clearance at that station, or the train's engine has passed a train order signal displaying Clear.

Ž When annulling the authority of or restricting a work extra.

Ž When necessary for a train dispatcher to know that an order has been delivered to the conductor or engineer and that they can comply with the restriction before the order is completed to the other train.

If a clearance has been delivered at that station, before "OK" is given for new clearance the numbered clearance must be annulled by train order; or non-numbered clearance must be returned to the operator

who must then mark all copies “Void (time) and (date) ” and keep them on file. This must be reported to and recorded by the train dispatcher. Previously delivered train orders, addressed to the train at that station, need not be returned to the operator, but new clearance must show the numbers of all train orders received at that station.

Rule 219 (A). Restricting Order to Crew Member.

When a train order restricting a train is to be issued to a crew member, the order must not be transmitted until the conductor or engineer has assured the train dispatcher that both conductor and engineer understand that their train is to be restricted and they can comply with the restriction.

Rule 220. Additional Orders Non-Restricting. After a clearance is delivered, if orders are issued for a train which do not restrict it, the train dispatcher may authorize additional clearance without requiring the operator to secure the original clearance. Additional clearance must show numbers of all orders delivered to the train at that station.

Rule 221. Clearance Requirements. Except when clearances are transmitted mechanically, they must be filled out in manifold by the operator shown without erasure or alteration. They must include the date, station, address, total number of orders (if none, show “NO”) and the number of each train order, if any, addressed to that train. Train order numbers must be listed on the clearance in the following sequence in numerical order:

- Slow or cautionary orders.

- Movement orders of previous date.
- Movement orders of current date.

The operator must then transmit address and order numbers from clearance to the train dispatcher, who must make record and check correctness. If correct, the train dispatcher will give OK, time, and his initials, which the operator will enter on the Clearance with the operator's last name. Clearance must not be issued without authority from the train dispatcher. A copy of each clearance must be kept for office file.

Rule 222. Train Order Signals. Aspects of train order signals are shown by the position of semaphore arms, position of targets, colors of lights, or a combination thereof as shown in Rules 224, 225, and 226 (see Figure 4). Where a semaphore type signal is used, the governing arm is displayed to the right of the mast as viewed from an approaching train. The indication displayed on a train order signal in a given direction governs all trains moving in that direction on any track. Light in a color light type train order signal will be displayed continuously. When any part of a train passes a train order signal in Stop position, the train must not leave the station without receiving a clearance. One exception is when a train order signal is in the Stop position or light is absent on color light type train order signal and an operator is not on duty, a train may proceed without clearance upon advice from the train dispatcher that there are no train orders for the train at that station.

Rule 222 (A). Special Precautions, Restricting Orders. To deliver a train order restricting a train at a

point where a train cannot otherwise be required to secure a clearance, the train dispatcher must, if practicable, notify and receive acknowledgment of notification from the conductor and engineer that they are to receive a restricting train order at that point and must not leave without a clearance. A controlled signal, when available, must be used to ensure that the train does not pass the point without receiving a clearance. If delivery of a train order cannot be ensured as prescribed by one or both of these means, an operator must be instructed to stop the train using the flagman's signals.

Rule 223. Call-on Indication. To enable the train dispatcher to advance a train beyond a train order office at a station where it is restricted for an opposing or following train, the necessary train order must first be issued. A Form N train order must then be issued to the operator, which will authorize him to give one of the call-on signals shown in Figure 4 if the time specified in the order has not expired:

Ž When the approaching train has passed the last station before reaching the office to which the Form N train order was issued, verbal authority may be given as follows: "I have a Form N train order to advance (train) on main track at (station holding Form N train order) until (time) ." If the train cannot arrive at the point where the train orders are to be delivered by the time specified, the train must not accept call-on authority.

- At stations equipped with a two-position type train order signal, operate the train order signal from

red to green several times, then immediately restore signal to display Stop indication.

- At stations equipped with a three-position type train order signal, display call-on indication and return signal to display red aspect upon acknowledgment from engineer.
- Illuminate letter-type indicators where provided.

When authorized by an operator, this will indicate to an approaching train that orders are to be delivered which will authorize movement to the next station or beyond, against and ahead of all superior trains. The engineer must promptly acknowledge call-on signal orally or by sounding whistle signal 15(c) (refer to Figure 3) and proceed on main track to receive orders. If the train is stopped after the engineer has acknowledged the call-on indication and clearances and orders have not been received, flag protection must be provided when required.

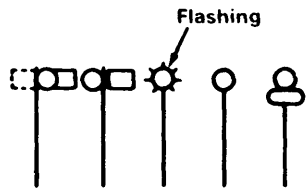
RULE	ASPECTS	INDICATION
224	Name -- STOP  Flashing RED	Stop unless clearance received.

Figure 4. Train Order Signals

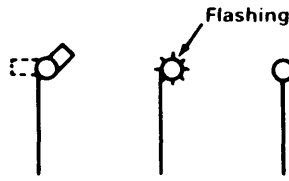
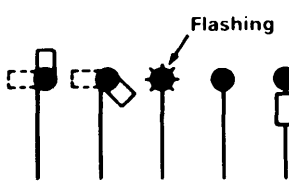
RULE	ASPECTS	INDICATION
225	Name – CALL-ON  Flashing YELLOW	Proceed on main track to train order signal.
226	Name – CLEAR  Flashing GREEN	Proceed

Figure 4. Train Order Signals (cont)

PRESCRIBED FORMS OF TRAIN ORDERS

Forms with a prefix “S” are for single track and those with a prefix “D” are for tracks where a current of traffic is established. The following explanation of train order forms applies only to the train order examples shown.

Ž ANNA and HOPE are the initial and terminator stations of the subdivision.

- ANNA to HOPE is westward (or southward).
- HOPE to ANNA is eastward (or northward).

- Eastward or northward regular trains are even-numbered.

- Ž Westward or southward regular trains are odd-numbered.

- Ž First class trains are numbered 1 through 10.

- Ž Second class trains are numbered 240 through 360.

In all examples used, eastward or northward regular trains are superior to opposing trains of the same class.

Rule 223 (D). Only authorized abbreviations are used in writing authorizations in CT 401, train orders, clearance forms, and other forms authorized by the Transportation Department. These abbreviations are as follows:

- Initials for signature of the superintendent.

- The standard abbreviations for the names of the months.

- **BC:** Burro Crane.

- **BDA :** blocking device applied.

- **BDR:** blocking device removed.

- Ž **C&E:** conductor and engineer or motorman.

- Ž **Cdr:** conductor.

- **Com:** complete.

- Ž **CP:** controlled point.

- **CS:** controlled siding.

- **DC:** detector car.

- **Ds:** train dispatcher.

- **Eng:** diesel-electric, MU electric or electric locomotive.
- **Engr:** engineer
- **Frm:** MW or signal foreman.
- Ž **HRC:** highway railcar.
- **Int:** interlocking.
- **Jct:** junction.
- Ž **MP:** mile post.
- **MPH:** miles per hour.
- Ž **MW:** maintenance of way.
- Ž **No:** number.
- **OK:** correct.
- **Opr:** operator.
- **Psg:** passenger.
- **RDC:** rail diesel car.
- **Sec:** secondary track.
- **TC:** track car.
- **TCD:** track car driver.
- **TV:** trail-van.
- **Xra:** extra.

Rule 225. Upon arrival of the train at a meeting or passing point at an unattended station, if the other train is not in sight, the conductor or engineer must find out from the train dispatcher or operator if there are any orders.

Rule 226. A train order station must not be closed until permission is obtained from the train dispatcher.

Signals, when provided, must then be arranged to indicate "no train orders."

EXAMPLES OF TRAIN ORDER FORMS

A train order authorizes the movement of trains not provided for in timetables. The following section shows examples of train orders and explanations pertaining to their use. Train orders may be written using DA Form 4092-R (Train Order). Before leaving a train order station, a train must first receive a clearance form. DA Form 4091-R (Clearance Form "A") is used in conjunction with DA Form 4092-R. The clearance form provides the conductor and engineer with a list of all train orders that apply to their train. A completed sample and instructions for each form are included in the appendix. Both forms are reproducible. Refer to FM 55-20 for additional information.

Establishing Meeting Points For Opposing Trains

S-A

- (1) NO 2 ENG AMTK 500 MEET NO 1 ENG AMTK 505
AT DORA
NO 1 TAKE SIDING
- (2) EXTRA 210 EAST MEET THREE EXTRAS 231 AND
270 AND 825 WEST AT BESS
EXTRA 210 EAST TAKE SIDING
- (3) NO 9 ENG 1400 MEET NO 244 ENG 3700 AT BESS
AND MEET EXTRA 3300 EAST AT FAYE
NO 9 TAKE SIDING AT BESS
EXTRA 3300 EAST TAKE SIDING AT FAYE
- (4) EXTRA 9151 EAST MEET EXTRA 7500 WEST AT
STOCK TRACK GLEN

EXTRA 7500 WEST TAKE STOCK TRACK

Trains receiving these orders will run with respect to each other to the designated point and meet in the manner prescribed by the rules.

At meeting points established by Form S-A train order, the train order must specify which train will take siding, except where movements at each end of siding are governed by controlled signals. The words "take siding" (or take _____ track) will apply to any designated track where trains are instructed to meet.

Form S-A train order must not be used to establish a meeting point between a work extra and another train. It also must not be issued to establish a meeting point at the beginning of CTC or APB territory, interlocking limits that include more than one station, at the end of multiple main tracks, or at initial or terminating stations.

Item (4) will be used to establish a meeting point on a designated track other than a siding.

Directing a Train to Pass or Run Ahead of Another Train

S-B

- (1) NO 1 ENG 8300 PASS NO 7 ENG 4605 AT EDEN
NO 7 TAKE SIDING
- (2) EXTRA 594 EAST PASS NO 8 ENG 2830 AT CLOY
NO 8 TAKE SIDING

The trains will run to the designated point and then arrange for the following train to pass promptly. The train order must state which train is to take siding.

When an inferior train receives a train order to pass a

superior train, authority is conferred to run ahead of the train passed from the designated points.

(3) EXTRA 9151 EAST RUN AHEAD OF NO 6 ENG 374
HOPE TO ANNA

(4) NO 243 ENG 8488 RUN AHEAD OF NO 3 ENG 475
ANNA TO HOPE

The first named train is authorized to run ahead of the second named train between the points designated.

Under examples (2), (3), and (4), if a train is delayed after receiving authority to run ahead of a superior train, first named train may allow second named train to pass and the train order will then be considered fulfilled.

Giving Right Over An Opposing Train

S-C

The following examples give the first named train superiority between the points named. Neither train is restricted by the order except between the points named unless the order states otherwise.

- (1) NO 1 ENG 500 HAS RIGHT OVER NO 2 ENG 550
BESS TO DORA
- (2) NO 355 ENG 9500 HAS RIGHT OVER NO 242 ENG
8488 DORA TO HOPE
- (3) NO 243 ENG 9150 HAS RIGHT OVER NO 242 ENG
9100 ANNA TO HOPE
- (4) NO 353 ENG 5300 HAS RIGHT OVER NO 242 ENG
7607 ANNA TO DORA AND HOLD MAIN TRACK
AT DORA AGAINST NO 242

(5) EXTRA 8445 WEST HAS RIGHT OVER NO 2 ENG
500 ANNA TO DORA

If trains meet at either of the designated stations, the first named train must take siding, unless order otherwise prescribes, as shown in item (4). Item (4) authorizes No 353 to hold main track at Dora against No 242 and if the trains meet at Dora No 242 must take siding.

The inferior train may proceed between the points named if it is able to clear the time of the superior train as required by Rule S-87.

Before opposing extras are authorized, unless a meeting point has been established, one extra must be made superior to the opposing extra by Form S-C train order over the entire territory where both extras are authorized. An exception is when not practicable to establish superiority over the entire territory where both extras are authorized, the extra made superior must be instructed to hold the main track or take siding and not leave the point where superiority ends unless the opposing extra has arrived.

(6) EXTRA 8964 EAST HAS RIGHT OVER EXTRA
9302 WEST HOPE TO ANNA

In item (6) both trains are to be authorized as extra between Anna and Hope. Extra 9302 West must not leave Anna until Extra 8964 East has arrived Anna, unless authorized to do so by train order.

(7) EXTRA 7607 WEST HAS RIGHT OVER EXTRA
6681 EAST ANNA TO DORA AND WAIT AT
ANNA UNTIL 1401
BESS 1420
CLOY 1445
FOR EXTRA 6681 EAST

In item (7) both extras will be authorized between Anna and Dora and either extra (but not both) may be authorized west of Dora. The extra whose authority originates or terminates at Dora has no authority to occupy the main track at Dora.

Extra 7607 West must not pass the designated waiting points before the times given unless Extra 6681 East has arrived. Extra 6681 East must clear the times specified at the designated waiting points as required by Rule S-87.

If the words "FOR EXTRA 6681 EAST" are omitted, Extra 7607 West must not pass the points named until the time given.

(8) EXTRA 8982 WEST HAS RIGHT OVER EXTRA
5017 EAST ANNA TO FAYE TAKE SIDING (or
HOLD MAIN TRACK) AND NOT LEAVE FAYE
UNLESS EXTRA 5017 EAST HAS ARRIVED

In item (8) both extras will be authorized between Anna and Hope and it is not practicable to establish superiority over the entire territory.

This example must instruct Extra 8982 West not to leave Faye and enter territory where no superiority has been established unless Extra 5017 East has arrived at Faye. It must also instruct the extra made superior to

take siding or hold main track at Faye as both trains are authorized at and beyond Faye.

- (9) EXTRA 8982 WEST HAS RIGHT OVER EXTRA 5017 EAST ANNA TO CLOY AND WILL NOT LEAVE GLEN UNLESS EXTRA 5017 EAST HAS ARRIVED

Item (9) will be used when Cloy is the beginning of current of traffic operation or territory where signal indication supersedes the superiority of trains. If both extras are authorized beyond such territory, the order must instruct Extra 8982 West not to leave that territory unless Extra 5017 East has arrived.

- (10) EXTRA 6574 EAST HAS RIGHT OVER EXTRA 9237 WEST FAYE TO CLOY

In item (10) both extras will be authorized between Faye and Cloy. Either extra (but not both) may be authorized west of Faye. Either extra (but not both) may be authorized east of Cloy. The extra whose authority originates or terminates at Faye or Cloy has no authority to occupy the main track at Faye or Cloy.

D

Giving Right Over Train in Same Direction

These examples establish the first named train as being superior, by right, over a train moving in the same direction between the points named.

- (1) NO 243 ENG 9950 HAS RIGHT OVER NO 9 ENG 6500 (or EXTRA 3301 WEST) ANNA TO HOPE

No 9 (or Extra 3301 West) must clear the time of No 243 between Anna and Hope as required by Rule 86.

- (2) EXTRA 4030 EAST HAS RIGHT OVER EXTRA 7128 EAST HOPE TO ANNA

If no train order waiting time is provided, Extra 7128 East must not occupy the main track ahead of Extra 4030 East between Hope and Anna.

- (3) EXTRA 3301 WEST HAS RIGHT OVER EXTRA 9150 WEST (or NO 243) ANNA TO HOPE AND WAIT AT ANNA UNTIL 1405

BESS	1420
CLOY	1435
DORA	1450

Extra 3301 West must not pass the designated waiting points before the times given. Extra 9150 West (or No 243) must clear Extra 3301 West between Anna and Hope as required by Rule 86.

Time Orders

E

- (1) NO 5 ENG 2900 WAIT AT
ANNA UNTIL 2045
CLOY 2115
EDEN 2135

Number 5 must not pass the designated points before the times given. This order makes the time of No 5 at Anna and Bess 2045, at Cloy and Dora 2115, and at Eden and any point between Eden and Hope where the schedule of No 5 is earlier, 2135.

Inferior Trains must clear these later times the same as previously required to clear the schedule time.

S-E

Time Orders

(1) NO 247 ENG 8350 (or EXTRA 2405 WEST) WAIT
AT BESS UNTIL 1510
CLOY 1520
DORA 1535
FOR EXTRA 985 EAST

The example giving time on Extra 2405 West must be used only after superiority has been established.

Number 247 (or Extra 2405 West) must not pass the designated points before the time given unless Extra 985 East has arrived. Extra 985 East must clear the times given as required by Rule S-87.

Time given at Dora on Extra 2405 West may also be used by Extra 985 East at any point between Dora and Hope.

Time given at Dora on No 247 may be used by Extra 985 East at any point between Dora and Hope where the schedule time of No 247 is earlier than 1535.

Forms E and S-E must not be combined in the same train order.

- (1) WESTWARD TRAINS (or WESTWARD EXTRAS)
EXCEPT NO 247 (or EXTRA 9150 WEST)
BETWEEN ANNA AND HOPE WAIT AT ANNA
UNTIL 1030

This order relieves the excepted train from protecting against the following trains instructed to wait, between the stations named, until the time specified.

- (2) WESTWARD EXTRAS BETWEEN ANNA AND
HOPE WAIT AT
ANNA UNTIL 1030
DORA 1210

A regular train receiving this order will not be required to protect against following extras between the stations named until the times specified.

Items (1) and (2) must not be issued where there is a preceding train between the designated points.

- (3) EASTWARD EXTRAS EXCEPT TWO EXTRAS
4082 AND 6680 EAST BETWEEN HOPE AND
ANNA WAIT AT HOPE UNTIL 1630

With this order, protection is not required against eastward extras between the points named until the time specified, except each of the excepted trains must protect to the rear unless it is known the other is ahead or the order is modified as follows:

- (a) EXTRA 6680 EAST WAIT AT
HOPE UNTIL 1210
FAYE 1330
DORA 1430

When so modified, Extra 4082 East is relieved from protecting against Extra 6680 East until times specified.

This example may also be modified by adding:

- (b) EXTRA 4082 EAST HAS LEFT HOPE (or
EXTRA 4082 EAST HAS PASSED DORA)

Example (3) may be used only on subdivisions where authorized by special instructions.

On subdivisions where the use of example (3) is authorized, trains must not leave the main track unless a crew member is left at the main track. He must identify his train to any train passing in the same direction.

Examples (1), (2), and (3) must not be issued to include any part of the limits of a work extra and must not be used to protect an opposing train movement. Reverse movements made under this protection must be made at restricted speed.

Train dispatchers must not permit movement of a following extra within the limits of the order until expiration of time or times stated in such order.

- (4) NO 278 (or EXTRA 600 EAST) PROTECTS
AGAINST (train) BETWEEN HOPE AND ANNA

Example (4) must be used where Rule 99 (4) is authorized and it is desired to have a train protect against a following extra.

This example may be modified by adding:

AFTER 1430

When time is shown, both trains must receive copy of order, and last named train will not leave Hope before time specified.

Authorizing Extras

G

- (1) ENG 6400 RUN EXTRA ANNA TO HOPE
- (2) ENG 9261 RUN EXTRA ANNA TO DORA AND
RETURN TO ANNA
- (3) ENG 240 RUN EXTRA HOPE TO EDEN AND
RETURN TO GLEN
- (4) ENG 7607 RUN EXTRA CLOY TO EDEN THEN
RUN EXTRA EDEN TO ANNA

With examples (2), (3), and (4) the extra must go to the second named station before running to the last named station. The second named station is the initial station for the return trip and clearance will not be required if the station is not a train order office or if a train order signal displays Proceed in both directions. This form of order does not relieve the train from providing protection to the rear, while moving in either direction, where required by rule.

Example (4) must be used when the train is to return to a point beyond the first named station.

- (5) AFTER 1410 (date) ENG 9150 RUN EXTRA
ANNA TO HOPE

Extra 9150 West must not leave Anna before the time stated.

(6) AFTER EXTRA 8488 WEST ARRIVES DORA ENG
9052 RUN EXTRA DORA TO ANNA

Extra 9052 East must not leave Dora until
Extra 8488 West has arrived.

(7) ENG AMTK 500 RUN EXTRA ANNA TO HOPE
WITH RIGHT OVER ALL TRAINS AND WAIT AT
ANNA UNTIL 0915
BESS 0925
CLOY 0940
DORA 0950
FAYE 1010
GLEN 1020

Example (7) may be varied by specifying the particular trains over which the extra shall or shall not have right. Trains over which the extra is given right must clear the train order time of such extra as required by Rules 86 and S-87.

The extra authorized by example (7) must move within yard limits and through the limits of a work extra the same as required of any other extra; and both trains must be given example (4) of Form H train order, if the work extra holds a train order relieving it from protecting against extras.

(8) ENG 9100 RUN EXTRA ANNA TO HOPE AND
MUST NOT LEAVE EDEN UNTIL EXTRA 8410
EAST HAS ARRIVED

This example may only be used when Eden is the terminating station for Extra 8410 East and when it is not practicable to establish superiority or meeting point by use of other forms of train orders.

- (9) ENG 2552 RUN EXTRA ANNA TO FAYE
THIS ORDER IS ANNULLED AT 1910

An extra so authorized must be clear of the main track at the time specified or protected in both directions as prescribed by Rule 99. The words "THIS ORDER IS ANNULLED AT 1910" may be used to modify any of the above examples except example (7).

These examples authorize the extra to occupy the main track only from the point where its time applies at the initial station to the point where time applies for an opposing train at the terminating station.

Work Extras

H

- (1) ENG 292 WORKS EXTRA (ON _____ TRACK(S))
0645 UNTIL 1845 BETWEEN CLOY AND EDEN

Work extras have no specified direction. The time of regular trains must be cleared as prescribed by Rules 86, 86(B), or S-87. Work extras will be governed by train orders with respect to other work extras within their working limits. When more than one main track is included in the limits the order must specify upon which track or tracks the work extra is authorized.

On tracks where current of traffic has been established, a work extra must protect against extras moving with the current of traffic as prescribed by Rule 99 and on other main tracks, a work extra must protect against extras in both directions as prescribed

by Rule 99, unless relieved as indicated in the following examples:

Example (1) may be modified by adding:

(a) NOT PROTECTING AGAINST EASTWARD
EXTRAS

Protection against eastward extras is not required.

(b) NOT PROTECTING AGAINST EXTRAS

Protection against extras is not required.

Examples (a) and (b) may be further modified by adding:

UNTIL 1230 PM

Protection against the extras shown in the modification is not required until the time specified.

(c) NOT PROTECTING AGAINST EXTRAS
EXCEPT PROTECTS AGAINST EXTRA
2835 WEST AFTER 1510

The work extra must provide flag protection against Extra 2835 West at 1510. Flag protection against other extras is not required.

To relieve work extras from protecting against specific extras, the following example may be used:

(2) EASTWARD EXTRAS EXCEPT TWO EXTRAS
2910 AND 2839 EAST WAIT AT
EDEN UNTIL 1610 FOR WORK EXTRA 292
EXTRA 2910 EAST WAIT AT
EDEN UNTIL 1310
DORA 1330 FOR WORK EXTRA 292

EXTRA 2839 EAST WAIT AT
EDEN UNTIL 1410
DORA 1430 FOR WORK EXTRA 292

The eastward extras named must not leave the designated points until the specified times, unless the work extra has arrived and has been identified as prescribed by Rule 83(A).

Protection against the eastward extras named is not required east of the points named until the times specified in the order.

(3) ON FEB 17 ENG 292 WORKS EXTRA 0645 UNTIL
1545 BETWEEN DORA AND EDEN

This form must be used to authorize a work extra in advance and may specify more than one date.

When two or more work extras are authorized within the same limits, or when the limits of a work extra include any part of the limits of another work extra, each work extra must be given a copy of all orders authorizing work extras within such limits, and must be supplemented by adding (d) or (e).

(d) LOOKING OUT FOR EACH OTHER

When the train order states "LOOKING OUT FOR EACH OTHER " each work extra, while within territory where their limits overlap, must move at restricted speed. The work extras will not be required to provide flag protection against each other and when practicable the conductors and engineers of each work extra must have a thorough understanding of the

movements to be made within their overlapping limits.

(e) WORK EXTRA 292 PROTECTS AGAINST
WORK EXTRA 393 BETWEEN BESS AND
EDEN

A work extra so instructed must protect against the work extra specified between the designated points, as prescribed by Rule 99. The second named work extra is not required to protect against the first named work extra.

On single track when extras are run through the limits of a work extra, they must be given a copy of the order authorizing the work extra when this can be done. When it is not practicable to give a copy of the order to an extra within, or closely approaching the limits, example (1) must be modified by adding:

(f) CLEARS EXTRA 201 WEST

The work extra must not enter, or foul, the limits ahead of the extra named in the order. When a work extra has been instructed by train order not to protect against extras and it is later desired to have it clear the track for, or protect after a certain time against designated extras, a train order may be given in the following form:

(4) WORK EXTRA 292 CLEARS (or PROTECTS
AGAINST) EXTRA 76 EAST BETWEEN DORA
AND EDEN AFTER 1410

Work Extra 292 must clear (or protect against) Extra 76 East after 1410.

Extra 76 East must not enter the limits before 1410 unless authorized by train dispatcher to enter under

flag protection. After 1410 Extra 76 East can run, expecting to find the work extra clear of the main track, or protecting as the order requires.

To enable a work extra to work upon the time of a regular train, the following form will be used:

(5) WORK EXTRA 292 PROTECTS AGAINST NO 10
ENG 1402 (or _____ CLASS TRAINS) BETWEEN
DORA AND EDEN

The work extra may work upon the time of the train or trains mentioned and must provide protection against such train or trains. The regular train or trains must receive a copy of the order and will run expecting to find the work extra protecting.

(6) WORK EXTRA 292 HAS RIGHT OVER ALL
TRAINS (ON _____ TRACK(S)) BETWEEN
DORA AND EDEN 1545 UNTIL 1745

This example gives the work extra right to the track or tracks mentioned between the designated points within the times specified. Other trains must not enter the limits. between the times specified unless authorized by the train dispatcher to enter under flag protection.

Form H train orders authorizing work extras confer no authority for the work extra to occupy the main track(s) beyond the point where time applies for trains entering the limits.

Should the work order instruct a work extra not to protect against extras, such extras must not enter the limits unless authorized by the train dispatcher to enter the limits under flag protection. If the order

indicates that the work extra is protecting against other trains, they will run expecting to find the work extra protecting as prescribed by Rule 99.

The limits or time of a work extra must not be extended but the original order must be annulled and another issued. The limits should be as short as possible. Work extras must give way to all trains as promptly as possible.

J

Holding Order

- (1) HOLD NO 2 ENG AMTK 500
- (2) HOLD ALL (or EASTWARD) TRAINS

When a train has been so held, it must not proceed until the order is annulled or an order is given in the following form:

NO 2 MAY GO

These orders will be addressed to the operator.

Form J will be used only when necessary to hold trains in situations not provided for by other forms of orders. Form J must not be used as a restricting order to advance trains against other trains.

K

Annuling a Schedule

- (1) NO 1 DUE TO LEAVE ANNA FEB 29 IS
ANNULLED ANNA TO HOPE

(2) NO 1 DUE TO LEAVE ANNA FEB 29 IS
ANNULLED EDEN TO HOPE

(3) NO 1 DUE TO LEAVE ANNA FEB 29 HAS
ARRIVED EDEN AND IS ANNULLED EDEN TO
HOPE

The schedule annulled becomes void between the
points designated and cannot be restored.

Example (3) will not be issued until No 1 has actually
arrived at Eden.

Form K must not be combined with other forms of
train orders.

**Annuling an Order
or a Numbered Clearance**



(1) ORDER (CLEARANCE) NO 201 IS ANNULLED

If an order or numbered clearance which is to be
annulled has not been delivered to a train, the annul-
ling order will be addressed to the operator. The
operator will destroy all copies of the order or
numbered clearance that has been annulled except his
own, and will write the following on his copy:

ANNULLED BY ORDER NO _____ .

An order or numbered clearance which has been
annulled must not be reissued under its original
number.

When train orders or numbered clearances are
annulled on any date other than date of issue, the date,

as well as the number of the order or numbered clearance annulled, must be included in the order.

M

Annulling Part of an Order

- (1) THAT PART OF ORDER NO 202 READING AND
MEET EXTRA 3300 EAST AT FAYE

EXTRA 3300 EAST TAKE SIDING AT FAYE IS
ANNULLED
- (2) THAT PART OF ORDER NO 203 READING
ANNA 2045
CLOY 2115 IS ANNULLED

Form M will be used only when that part of the order which is not annulled is clear in its wording. If there is any possibility of misunderstanding, the entire order should be annulled and a new order issued.

N

Call-on Order

- (1) ADVANCE EXTRA 798 EAST ON MAIN TRACK
UNTIL 1101

This form of order addressed to an operator will be used when it is desired to advance an approaching train on a main track as prescribed by Rule 223.

The train dispatcher will specify a time to safely allow an approaching train to move on main track to a train order signal. If the train has not acknowledged call-on indication before the specified time, the

operator will then restore signal to display Stop and notify train dispatcher.

**Fixed Meeting or Passing Points
For a Train Handling Equipment
of Excessive Width**

0

- (1) EXTRA 201 WEST MEET NO 242 (or PASS NO 241) AT GLEN WITH CENTER SIDING BETWEEN TRAINS
- (2) EXTRA 201 WEST MEET EXTRA 6911 EAST (or PASS EXTRA 6911 WEST) AT DORA

EXTRA 201 WEST TAKE SIDING AT DORA SO WILL HAVE WESTWARD MAIN TRACK BETWEEN TRAINS
- (3) EXTRA 201 WEST MEET EXTRA 6911 EAST (or PASS EXTRA 6911 WEST) BETWEEN MP 107 AND MP 108 WHERE TRACK CENTERS PROVIDE SAFE CLEARANCE
- (4) EASTWARD TRAINS MUST NOT MEET EXTRA 8300 WEST BETWEEN THE FOLLOWING MILE POST LOCATIONS
MP 106.6 AND MP 110.6 BETWEEN BESS AND CLOY
MP 120.2 AND MP 120.7 BETWEEN EDEN AND FAYE
EXTRA 8300 WEST HANDLING LOAD OF EXCESS WIDTH WAIT AT
CLOY UNTIL 1430
FAYE 1510

- (5) EXTRA 8300 WEST HANDLING LOAD OF EXCESS WIDTH MUST NOT MEET THREE EXTRAS 6500 OR 8809 OR 9506 EAST BETWEEN THE FOLLOWING MILE POST LOCATIONS

MP 212.6 AND MP 210.5 BETWEEN EDEN AND _
DORA

MP 204.5 AND MP 202 BETWEEN DORA AND
CLOY

MP 199.2 AND MP 197.8 BETWEEN CLOY AND
BESS

EXTRA 6500 EAST WAIT AT
DORA UNTIL 1210
CLOY 1230
BESS 1245

EXTRA 8809 EAST WAIT AT
DORA UNTIL 1445
CLOY 1505
BESS 1520

EXTRA 9506 EAST WAIT AT DORA UNTIL 2001

These examples may be used to establish the meeting or passing points at locations that will provide sufficient clearance for train handling equipment of excessive width.

With examples (4) and (5), if trains are unable to avoid meeting within the indicated locations protection must be provided against movements on adjacent tracks and necessary action taken to ensure safe passage.

**Superseding an Order
or Part of an Order**

P

This order will be given by adding to prescribed forms the words INSTEAD OF _____.

- (1) NO 2 ENG AMTK 500 MEET NO 1 ENG AMTK 505
AT CLOY INSTEAD OF DORA
NO 1 TAKE SIDING AT CLOY
- (2) NO 1 HAS ENG 9902 INSTEAD OF ENG AMTK 505
- (3) ORDER NO 204 SHOULD READ EXTRA 6601
EAST INSTEAD OF EXTRA 6610 EAST

An order which has been superseded must not be reissued under its original number.

A meeting point must not be changed by use of Form P train order more than once. If further changes are necessary, the previous order must be annulled. When a train is directed by train order to take siding for another train and the meeting or passing point is changed by a superseding order, the superseding order must specify which train will take siding.

Train orders issued under Forms S-A, B, S-C, and D may be superseded. Other forms must not be superseded, except as specified herein.

**Change of General Orders,
Special Instructions or Timetable**

Q

- (1) _____ DIVISION (or SYSTEM) TIMETABLE (or
SPECIAL INSTRUCTIONS) NO 1 TAKES EFFECT
AT 0001 APRIL 28, 1985

Trains and engines must not occupy the main track after the effective time and date of new timetable or special instructions unless the crews have secured copies of the new timetable or special instructions.

The following examples must be used when cancelling or changing general orders or special instructions by train order.

- (2) GENERAL ORDER NO _____ (or SPECIAL INSTRUCTIONS ITEM _____) IS CANCELLED
- (3) GENERAL ORDER NO _____ (or SPECIAL INSTRUCTIONS ITEM _____) WILL NOT APPLY TO (train)
- (4) GENERAL ORDER NO _____ (or SPECIAL INSTRUCTIONS ITEM _____) IS CHANGED TO READ _____
- (5) GENERAL ORDER NO _____ IS IN EFFECT AS FOLLOWS _____

Any requirement to ensure safety which is removed as a result of changing or canceling a general order or special instruction must be reinstated by train order.

General orders or special instructions which are cancelled or changed in this manner must not be reinstated. Train order must be delivered to all personnel affected until such cancellation or change is issued by a general order and the general order is posted.

- (1) NO 1 ENG AMTK 6918 HAS RIGHT OVER
OPPOSING TRAINS ON _____ TRACK CLOY
TO DORA
- (2) EXTRA 600 EAST HAS RIGHT OVER OPPOSING
TRAINS ON _____ TRACK GLEN TO FAYE

The designated train must use the track specified between the points named and has right over opposing trains on that track between those points. Opposing trains must not leave the point last named until the designated train arrives.

All trains between the points named moving with the current of traffic in the same direction as the designated train must receive a copy of the order when practicable and may then proceed on their schedules or rights.

Examples (1) and (2) may be modified as follows:

AFTER NO 4 ENG AMTK 508 ARRIVES AT EAST
CROSSOVER CLOY NO 3 ENG AMTK 510 HAS
RIGHT OVER OPPOSING TRAINS ON _____
TRACK EAST CROSSOVER CLOY TO DORA

The train to be moved against the current of traffic must not leave the first named point until the arrival of the first named train.

If there is a center siding or more than one crossover at a station, the train order must specify the points between which the authority extends.

In addition to Examples (1) or (2), the following example will be used when it is necessary to move a train against the current of traffic within the limits of a work extra.

- (3) WORK EXTRA 292 CLEARS NO 1 (or EXTRA 393-
WEST) ON _____ TRACK BETWEEN CLOY
AND DORA AFTER 1410

NO 1 (or EXTRA 393 WEST) MOVING AGAINST
THE CURRENT OF TRAFFIC CLOY TO DORA

Number 1 (or Extra 393 West) must not leave Cloy before 1410. Work Extra 292 must be clear of specified track at 1410.

A train must not be moved against the current of traffic. The track on which it is to run must be cleared of opposing trains between the points named in the order. Work extras authorized between the points named in the order must have a copy of train order examples (1) or (2) and example (3).

D-S

**Use of a Portion of Double Track
as Single Track**

- (1) 0801 UNTIL 1701 MAY 15 ALL TRAINS MUST
USE _____ TRACK BETWEEN WEST
CROSSOVER AT FAYE AND EAST CROSSOVER
AT GLEN
ALL TRAINS MUST STOP BEFORE FOULING
_____ TRACK BETWEEN THESE POINTS
UNLESS AUTHORIZED TO PROCEED BY
PERSON IN CHARGE OF SWITCHES

This order is to be used when one or more main tracks are to be removed from service and all trains in both directions are to use the remaining track with a person in charge of switches at each end of designated territory.

Movements between the designated points will be directed by the train dispatcher who will issue necessary instructions to the person in charge of the switches.

The person in charge of switches may authorize movement on the main track between the designated points by signal indication, verbally, or by proceed signal given with yellow flag or yellow light.

(2) _____ TRACK WILL BE USED AS SINGLE TRACK BETWEEN FAYE AND GLEN

All trains must use the track named between the points designated and will be governed by rules for single track.

For trains moving against the current of traffic, Rule 91 applies and flag protection must be given when required.

Establishing Temporary Yard Limits



(1) 0601 UNTIL 1601 (date or dates) RULE 93 IN EFFECT BETWEEN (points specified)

Trains and engines will be governed by Rule 93 between the points and during the time specified.

Suspending Block System Signals or Detectors

- (1) BLOCK SYSTEM IS SUSPENDED (ON _____
TRACK) BETWEEN (point) AND (point)
AND IS GOVERNED BY RULE 321
MAXIMUM AUTHORIZED SPEED PASSENGER
TRAINS _____ MPH AND OTHER TRAINS
_____ MPH

This form is used only when authorized by the superintendent when it becomes necessary to remove block system, or a section of it, from service.

The train order must specify the exact locations between which the block system is suspended such as west switch of siding Cloy or MP 210.

This order may be modified by adding:

- (a) INTERLOCKING SIGNALS AT _____
REMAIN IN SERVICE
 - (b) (Direction) TRAINS MUST USE
_____ TRACK
 - (c) AUTOMATIC CROSSING SIGNALS AT
_____ OUT OF SERVICE
 - (d) SWITCH AT _____ LINED FOR _____
TRACK
 - (e) SPRING SWITCH AT _____ SPIKED
FOR _____ TRACK
- (2) SIGNALS(S) _____ TEMPORARILY REMOVED
FROM SERVICE AND BLOCK EXTENDED
SIGNAL _____ TO SIGNAL _____

- (3) (Name of detector) LOCATED AT (MP)
REMOVED FROM SERVICE

Example (3) will be used to remove track side warning detectors from service. Crews receiving this order will disregard specified detector. The order may be modified to require train to stop and make inspection.

To authorize the automatic cab signal (ACS) devices to be cut out on the engine on a specified territory, the following form will be used:

- (4) 0801 UNTIL 1601 APRIL 4 CAB SIGNALS WILL BE
INOPERATIVE BETWEEN ANNA AND HOPE

A train receiving this order will be governed by Rules 367 and 372(A).

Check of Trains

V

These examples must be used to give a train the information required by Rule 83(A).

- (1) AT _____ (REGULAR) (_____ CLASS)
TRAINS DUE CLOY (HAVE PASSED) (HAVE
ARRIVED) (HAVE LEFT)

Example (1) may be modified by adding:

EXCEPT NO _____

- (2) NO 1 AND NO 2 (HAVE PASSED) (HAVE
ARRIVED) (HAVE LEFT) GLEN
- (3) EXTRA 99 EAST (HAS ARRIVED) (HAS LEFT)
ANNA ON ORDER NO _____

**Change in Clearance
or Register Requirements**

- (1) _____WILL NOT (REGISTER) (REQUIRE A CLEARANCE) AT CLOY
- (2) _____WILL REGISTER AT CLOY BY REGISTER TICKET
- (3) _____MUST SECURE CLEARANCE AT CLOY
- (4) EXTRA 371 WEST REGISTER AT CLOY ON ORDER NO _____ OF (date)
- (5) EXTRA 380 EAST (or NO 2) MAY CHECK REGISTER AT CLOY AGAINST EXTRA 371 WEST ON ORDER NO _____ _ OF (date)

Examples (1) and (2) must be used to modify register or clearance requirements.

Example (3) is used to require a train to secure clearance at the station named.

Examples (4) and (5) must be used to permit a train to accept the train register as evidence of the arrival or departure of an extra train as prescribed by Rule 83(B).

When Example (4) is used, the number and date of the specified order must be recorded on the train register with other information required.

Slow or Cautionary Orders

X

- (1) DO NOT EXCEED
10 MPH OVER BRIDGE 1360 MP 136
25 MPH BETWEEN MP 245 AND MP 247

Where necessary, the stations between which the restriction is located will be included in the train order.

- (2) DO NOT EXCEED _____ MPH (ON _____
TRACK) BETWEEN _____ AND _____
- (3) (PSGR) (FRT) TRAINS MUST NOT EXCEED
_____ MPH BETWEEN MP _____ AND
_____ MP
- (4) _____ TRACK (BETWEEN _____ AND
_____) (or AT _____) MUST NOT BE USED
BY TRAINS OR ENGINES EXCEPT UNDER THE
DIRECTION OF FOREMAN (name) _____

This example is used to exclude a track or portion of a track from use by trains or engines except when authorized by the foreman.

Examples (1), (2), (3), and (4) may be modified by adding:

- (a) 0801 UNTIL 1601
- (b) YELLOW FLAG FOR (EASTWARD)
(WESTWARD) TRAINS LOCATED
_____ (or YELLOW FLAGS NOT
DISPLAYED)
- (5) 0901 UNTIL 1301 BETWEEN BESS AND GLEN
TRAINS MUST NOT EXCEED 10 MPH AND BE

PREPARED TO STOP SHORT OF MEN TRACK
CARS OR MACHINES FOULING MAIN TRACK

- (6) 0810 UNTIL 1010 BETWEEN ANNA AND CLOY
1010 UNTIL 1210 BETWEEN CLOY AND EDEN
1210 UNTIL 1510 BETWEEN EDEN AND HOPE
TRAINS MUST NOT EXCEED 10 MPH AND BE
PREPARED TO STOP SHORT OF MEN TRACK
CARS OR MACHINES FOULING MAIN TRACK

With examples (5) and (6), between the times specified, trains must approach the designated limits expecting to find men, track cars, or machines fouling the main track without flag protection and without use of yellow and green flags displayed. Trains must proceed through limits prepared to stop short of men, track car, or machines fouling the main track.

- (7) (25) CARS ON SIDING BESS SOUTH
SWITCH HOUSE TRACK CLOY MUST NOT BE
USED

Y

Protecting Men and Equipment

- (1) ON (date) ON SUBDIV RULES APPLICABLE
TO TRAIN ORDER FORM Y EXAMPLE (1) WILL
GOVERN WITHIN THE FOLLOWING LIMITS

	LIMITS:	BETWEEN:				FOREMAN	
	MP TO MP	STATION & STATION	FROM	UNTIL	TRACK(s)	OR GANG	STOP
1.	_____	_____	_____	_____	_____	_____	_____
2.	_____	_____	_____	_____	_____	_____	_____
3.	_____	_____	_____	_____	_____	_____	_____
4.	_____	_____	_____	_____	_____	_____	_____

During the time and within the limits stated in train order Form Y, example (1), trains and engines must move at restricted speed and stop short of men and machines fouling the track or a red flag placed to the right of the track. This example should be followed unless verbally instructed otherwise as prescribed below or unless the entire train has passed a green flag or has cleared the limits.

The engineer must attempt to contact the person in charge by radio sufficiently in advance to avoid delay, advising his location and specifying track.

In granting verbal authority the following words will be used:

"FOREMAN (name) (of GANG NO _____)
 USING TRAIN ORDER NO _____ LINE NO _____
 BETWEEN MP _____ AND MP _____ ON _____
 SUBDIVISION."

(a) To authorize a train or engine to pass a red flag or enter limits without stopping, the following will be added:

" (train) MAY PASS RED FLAG LOCATED AT MP _____ (OR ENTER LIMITS) WITHOUT STOPPING. "

A train or engine may pass a red flag or enter limits without stopping, continuing to move at restricted speed stopping short of men or equipment fouling track.

(b) To authorize a train or engine to proceed at a speed greater than restricted speed, the following will be added:

"(train)" MAY PROCEED THROUGH THE LIMITS AT _____ MPH" (OR "AT MAXIMUM AUTHORIZED SPEED").

Train may proceed through the limits at the prescribed speed unless otherwise restricted.

(c) To require a train or engine to move at a speed less than restricted speed, the following will be added:

"(train)" PROCEED AT RESTRICTED SPEED BUT NOT EXCEEDING _____ MPH" (ADDING IF NECESSARY "UNTIL REACHING MP _____ ")

A train must not exceed the prescribed speed and must be prepared to stop short of men or equipment fouling the track or a red flag to the right of the track. These instructions must be repeated by the engineer and "OK" received from the person giving them before they are acted upon.

When the word STOP is written in the Stop column, train or engine must not enter the limits until verbal authority is received from the person in charge as prescribed by example (a) above.

Yellow flags must be displayed as prescribed by Rule 10.

(2) RAIL DETECTOR 9171 (or OTHER ON-TRACK MACHINE) IN CHARGE OF (occupation)
(name) ON _____ TRACK BETWEEN (station or point) AND (station or point) (CLEARS EXTRA 900 WEST OTHER) TRAINS MUST APPROACH AND PROCEED AT RESTRICTED SPEED WITHIN THE FOLLOWING LIMITS UNTIL (title and name) HAS REPORTED THE LIMITS CLEAR (time) UNTIL (time) BETWEEN (station or point) AND (station or point) AND (time) UNTIL (time) BETWEEN (station or point) AND (station or point)

The machine named may occupy the specified track and move in either direction at restricted speed, within the specified limits, between times given, without flag protection and without the use of temporary signs prescribed by Rule 10. If the machine fails to clear the main track by the time required, it must be protected by the flagman as prescribed by the rules.

A line-up of trains expected to enter the working limits must be issued to the person in charge of the machine and the machine must give way to all trains promptly.

Trains must approach the limits specified at restricted speed. If the employee in charge has not reported the limits clear or the machine named has not been passed, movement through the limits must be made at restricted speed between the times given. Employees must be prepared to find the machine fouling the main track without flag protection and without

the use of temporary signs prescribed by Rule 10. If the machine has been reported clear to a train, or has been passed by a train, the machine must not foul the main track ahead of such train unless flag protection is provided.

In ABS territory, if specified limits include yard limits, trains must move at restricted speed within yard limits regardless of signal indication while within limits of this order unless they have been notified that the machine is clear or the machine has been passed.

S-227. Absolute Block Register Territory. On subdivisions or portions thereof, designated by timetable as absolute block register territory, extra trains may be operated without train order authority, subject to the following:

A train register labeled “Absolute Block Register (name or number) Subdivision” will apply only to a train operating on the designated subdivision.

Before leaving the initial station of the designated territory, the conductor must register the train in the usual manner in the register, adding “Rule S-227” and the date. Upon returning to the initial station, the conductor must register the train in the usual manner on the same line on the opposite page of the register, adding “Rule S-227” and the date. If there is no conductor, the engineer will register the required information. Until a train registered out of the initial station of a territory designated as absolute block register territory has registered the return of the train to the initial station, no other train may enter the designated territory except as authorized by train order.

Flag protection is not required in either direction and Rule 82(A) will not apply in absolute block register territory.

If it is necessary to authorize a second train into absolute block register territory, the train dispatcher may authorize a second train into the designated territory by issuing a train order to both trains in the following words:

EXTRA _____ (direction) BETWEEN MP
_____ AND MP _____ MUST REMAIN AT
LOCATION
ENG _____ MAY REGISTER AND ENTER ABR
TERRITORY TO REACH EXTRA
(direction)

The second named train may enter designated territory and approach location of the first named train, and must be prepared to stop. Upon the arrival of the second named train at the location of the first named train, the train order is fulfilled and further movement must be made as one train. The conductor of the second named train must register both trains out of the designated territory. Except as affected by Rule S-227, all other operating rules remain in effect.

SIGNAL ASPECTS

Signal aspects are shown by the position of semaphore arms, the color, flashing, and position of lights or any combination thereof. They may be qualified by marker plate, number plate, letter plate, or marker light. The signal aspects illustrated by the figures shown in these rules, show both color light and semaphore aspects. Signals may display either color light aspects alone, or semaphores in addition to color lights.

DISTANT SIGNALS

Rule 228. Green.

Name — Distant Signal Clear.

Indication — Proceed.

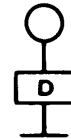


If a train or engine is delayed between distant signal clear and block signal, interlocking signal or switch point indicator, it must then proceed and be prepared to stop short of next signal or switch point indicator.

Rule 229. Yellow.

Name — Distant Signal Approach.

Indication — Approach next signal prepared to stop short of next signal or switch point indicator.



The maximum speed in interlocking limits for which “DISTANT SIGNAL APPROACH” is displayed at a distant signal, is 20 mph.

Rule 230. Clear. The train may proceed. Aspect of color light is green.

Rule 236. Approach. The train proceeds prepared to stop at next signal. Trains must not exceed 40 mph. Aspect of color light is yellow, yellow over red, yellow over double red, or yellow over dark.

Rule 240. Restricting. Proceed at restricted speed. Aspect of color light is flashing red or red over flashing red.

Rule 241. Stop and Proceed. Stop, then proceed at restricted speed. Aspect of color light is single red, double red, or red over dark. Signal staff must have number plate on staff.

Rule 242. Stop. The train must stop. Aspect of color light is single red, double red, triple red, or red over dark.

CHAPTER 5

BLOCK SIGNALS

This chapter covers track permits within ABS territory, movement and protection of trains on main track, rules governing the block system, and rules within centralized traffic control limits.

TRACK PERMITS WITHIN ABS TERRITORY

Rule S-250. Track Permit. When authorized by special instructions, between specified points, a train may occupy a main track on the authority of a track permit issued by designated personnel under the direction of the train dispatcher. Trains may move in either direction without flag protection during the effective time and within the limits of the track permit.

A track permit may be issued only when it is known that the limits are clear. Limits may be entered only on proceed indication of controlled signal or upon verbal authority of the person granting the permit. If a train enters limits on a signal other than a proceed indication of block or interlocking signal, signals protecting the limits must display Stop indication for at least 5 minutes before occupying the limits.

Signals are arranged to show that limits are protected by Stop indication of blocks or interlocking signals while the limits are occupied. No other movement is permitted into the limits. Track permit limits

must be continuously occupied or main track switch left open. Personnel requesting track permit must repeat it and receive "OK" before it is acted upon.

Personnel granting track permit must record it on the prescribed form. Not more than one track permit may be in effect at any time within the same limits. A train must be clear of the limits before the time expires or flag protection must be provided in each direction.

MOVEMENT OF TRAINS WITH THE CURRENT OF TRAFFIC ON A MAIN TRACK

Rule 251. Movements Governed. Within defined limits on designated tracks specified in the timetable, or by special instructions, trains will run with the current of traffic governed by block signals without regard to timetable superiority. The train dispatcher will issue verbal and message instructions.

PROTECTION ON MAIN TRACKS WHERE CURRENT OF TRAFFIC HAS BEEN ESTABLISHED

Rule 252. Track Permit. When authorized by special instructions between specific points within territory where the current of traffic has been established, a train, track car, machine, or personnel may occupy a main track or tracks on authority of track permit. The track permit is issued by a designated control operator under the direction of the train dispatcher. The train, track car, machine, or personnel may then move in either direction on such tracks within the limits during

the effective time of the track permit without train order authority or flag protection.

A track permit is issued only when the limits are clear or occupied by train, track car, machine, or personnel granted track permit and where the limits can be protected by controlled signals. The designated control operator must ensure that each of the signals used to protect the limits has been set to display Stop indicators; that marking or blocking devices have been applied to prevent displaying signals for movement into the limits; and that any other control operator who controls the signals used to protect the limits has acknowledged understanding of the protection order.

Marking or blocking devices must not be removed, or movement into the limits permitted, until limits have been cleared or released to the control operator. The person requesting a track permit must repeat it and receive "OK" before it is acted upon. The control operators will record the track permits on the prescribed form.

Track permit limits must be cleared and reported clear to the control operator before time expires. If the track permit is to be released before the time expires, all equipment must be clear of limits and that fact reported to the designated control operator. If no other track permit has been granted within the same limits, the train may release the permit and move with the current of traffic. The train is governed by signal indications upon authority of the designated control

operator in the following manner: “Track permit granted (train) on (track(s)) between (point) and (point) released for movement with the current of traffic on (track) at (time).”

If track permit limits are not clear by the time permit expires, no movement may be made against the current of traffic without a train order authority or flag protection. Train movement with the current of traffic must be made at restricted speed unless it is known that there is no other track permit in effect in the same limits. If more than one track permit is in effect at any time within the same limits or overlapping limits, all trains or personnel involved must be notified and movements must then be made at restricted speed.

ABSOLUTE PERMISSIVE BLOCK

Rule 255. Governed by Block Signals. Within defined limits designated in the timetable or by special instructions as absolute permissive block (APB), train movements will be governed by block signals whose indications will supersede the superiority of trains for both opposing and following movements on the same track.

BLOCK SYSTEM RULES

Rule 300. Location of Signals. Block and interlocking signals, when viewed in the direction of movement, are indicated generally to the right of the track, but may be indicated to the left or above such track. Two signals may be bracketed and located on a supporting mast for displaying indications for two tracks. When viewed in the direction of movement, the signal to the right

governs the track to the right, and the signal to the left governs the track to the left.

Rule 301. What Signals Govern. Block signals, cab signals or both, govern the use of blocks, but unless otherwise specified do not supersede the superiority trains.

Interlocking signals govern the use of the routes of an interlocking, and as to movements within interlocking limits, their indications supersede the superiority of trains. Where a track is signaled beyond the interlocking limits in the direction of movement, the interlocking signal is also a block signal. The indications of block and interlocking signals do not dispense with the use or observance of other signals and rules whenever or wherever they may be required.

Rule 302. Improperly Displayed Signals or Absence of Lights. Except as shown in block signal, cab signal, and interlocking signal indications, the absence of a light, or the presence of a white light displayed where a colored or lunar light should be, on a block or interlocking signal must be regarded as the most restrictive indication that can be given by that signal. Except when the position of the semaphore arm is plainly seen, such indication will govern.

Rule 303. Where Stop Must Be Made. Trains must stop before any part of the engine or equipment being handled passes a signal that requires trains to stop. Within CTC territory or interlocking if a train overruns a Stop indication, warning must be given to other trains at once by radio, and flag protection must be provided immediately against possible conflicting movements. If a train overruns a signal that requires it

to stop, the train must stop and the fact must be reported to the train dispatcher.

Overlaps may be indicated by overlap signs. A train holding the main track at a meeting point must not pass the overlap sign location, nor open the switch within the overlap, until the opposing train has entered the block. A preceding train must clear the overlap as soon as practicable to avoid delay to a following train.

Rule 303(A). Changing Established Route. After a controlled signal has been cleared for an approaching movement, it must not be changed before a closely approaching train has passed it or has been stopped, except to avoid an accident. A conflicting route must not be established, nor should a conflicting movement be authorized, until communication has been established with the crew of an approaching train, and it is known that such train has stopped clear of the conflicting route. No attempt shall be made to establish a conflicting route into an occupied block or interlocking limits, nor will a conflicting movement be authorized, unless it is known to be safe to do so. The device controlling a switch, derail, movable point frog, or lock must not be operated when any portion of a train is on or closely approaching such equipment.

Rule 303(B). Protection if Damaged. If a signal or signal appliance fails to function as intended, or if damage occurs to the track or signal appliances, signals governing movements on routes affected must display Stop indication. No movements on such routes may be permitted until track and signal appliances have been examined and it is determined that movement can be made safely.

Rule 303(C). Protection While Repairing. Within CTC or interlocking limits, when a track, switch, movable point frog, derail, or signal is undergoing repairs, is disconnected, or the track is obstructed or removed from service, Stop indicators must be displayed for all routes affected. Controls involved must be blocked or marked in a manner to prevent their operation. Switches, movable point frogs, and derails must be spiked or otherwise secured in the required position if any movement is permitted over them before repairs are completed.

Rule 303(D). Authority to Proceed. Within CTC limits or at interlocking, except when granting track and time limits, control operators must not give hand signals or verbal permission authorizing movement beyond a Stop signal when a proceed indication can be displayed for the movement.

At interlocking, when a control operator gives hand signals, they must be given with a yellow flag or yellow light from a location and in such a manner that there can be no misunderstanding on the part of the crew members as to the signals or the train for which they are intended.

Rule 303(E). Reporting Delays. When a proceed indication has been displayed on a controlled signal, if movement cannot be made promptly, the control operator must be notified immediately.

Rule 303(F). Block Occupancy Indicator. Where block occupancy indicators are located individuals must observe the indication displayed before fouling circuit

or changing derail or main track switch. When an occupied indication is displayed, the main track must not be fouled, unless the movement is properly protected. An indication displayed by a block occupancy indicator is not authority for a train or engine movement and does not relieve individual from protecting movements as required by the rules.

Rule 304. Change of Indication. If a signal indication permitting a train to proceed changes to a stop indication before the train reaches the signal, the train must stop immediately. Such an occurrence must be reported to the train dispatcher.

Rule 305. Delayed Within a Block. If a train passes a distant signal displaying Clear or enters a block on a proceed indication, other than one requiring movement at restricted speed, and stops or reduces speed below 10 mph, it must proceed at restricted speed until the next signal indicates proceed and the track is clear to that signal.

One exception to this rule is that within CTC limits, a train may proceed at a speed not exceeding 40 mph and must be prepared to stop at the next signal until it can be seen that the next signal indicates proceed and the track is clear to that signal.

Rule 306. Clear Track Circuits. A train, engine or car left standing on sidings or other tracks must be clear of insulated joints at clearance points.

Rule 307. Most Restrictive Indication. If a signal fails to display its most restrictive indication when a block is occupied or when a switch protected by that signal is

changed from its normal position, the signal must be regarded as displaying its most restrictive indication. A flagman must be left to stop trains governed by such signal before passing it and inform the crew of the condition. Such protection must be provided until relieved by signal department personnel or by instructions from the train dispatcher. In all cases, the train dispatcher must be notified by the quickest means of communication.

Rule 308. Call Lights. When a call light is illuminated, any personnel observing it, except those on moving trains, must communicate at once with the control operator.

Rule 309. Standing on Sanded Rail. An engine without cars, an engine with less than three cars, or cuts of four cars or less, must not be allowed to stand on sanded rail.

Rule 310. Lining Controlled Signals. Controlled signals must be displayed at their most restrictive indication. Signals must be cleared sufficiently in advance of a movement to avoid giving an unnecessary restrictive indication. Remote control switches which have been reversed must be restored to normal position as soon as practicable after a movement has been completed.

Rule 312. Stop Indication. The following procedures apply when a train is stopped at a signal displaying a Stop indication and no conflicting movement evident:

(1) In CTC territory, unless a train has been granted track and time limits on track governed by that

signal, a crew member must immediately communicate with the control operator. Upon instructions “ (train)___ at (location)___ has permission to pass signal displaying Stop indication, ” specifying route where applicable, the train may proceed at restricted speed. Before granting authority to proceed, the control operator must ensure there is no conflicting movement occupying, or authorized to enter, the track between that signal and the next absolute signal governing movement, or to the end of CTC where applicable. However, the following exceptions do apply:

- When there is a conflicting movement, if such movement has been stopped and the crew has been advised of the move to be made, authority may be granted to proceed. If the movement which has been stopped is later permitted to proceed, movement must be made at restricted speed until reaching the next governing signal.
- Where so equipped, the emergency push button located in the signal cabin at dual control switch locations will be used for the desired direction upon receipt of instructions from control operator. If a proceed indication is received, the train may proceed according to signal indication.
- If unable to communicate with control operator, the emergency push button may be used and if the signal changes to proceed indication, the train may proceed at restricted speed, regardless of more favorable signal indication. The train must keep a close lookout for men or track maintenance equipment on or

afoul of the track without flag protection until instructions are received from the control operator to proceed in accordance with signal indications.

(2) At manual interlocking, if no conflicting movement is evident, the crew member must immediately communicate with the control operator. Upon receipt of a proceed signal given with yellow flag or yellow light or verbal authority from control operator in words “ (train) at (location) has permission to pass signal displaying Stop indication,” the train may proceed at restricted speed. Before granting authority to proceed, the crew member must know that there are no conflicting movements, that the route is properly lined, and that if movement is to be made into CTC territory, permission must first be obtained from CTC control operator.

Where authorized by special instructions, if unable to communicate with control operator, a train may proceed after occupying the track within interlocking limits, but clear of any conflicting route; after waiting the time specified in special instructions; and after a crew member has preceded movement and determined that route is properly lined.

When no control operator is on duty and interlocking cannot be operated by a crew member, the train may proceed after a flagman has preceded the train, examined the track for defects, determined that the route is properly lined and that protection is given on conflicting routes. If signals or derails are not in position to provide protection on conflicting routes, flag protection must be provided on such routes.

In addition, if the signal governs movement over a drawbridge, a crew member must make sure that the bridge is in proper position for the passage of trains. Movement out of interlocking limits into territory where track permits are authorized must not be made except as prescribed by Item (5) of this rule.

(3) At automatic interlocking movement will be governed by the instructions in release box. If there is a conflicting movement, the train must not proceed until such movement has passed or has stopped and an understanding has been reached between the crews.

(4) Within ABS limits, except where superiority of trains is superseded by signal indication or track permits are authorized, a train that is otherwise authorized to proceed, may proceed at restricted speed after stopping. However, if the signal governs movement from siding or other track to main track, if the block is occupied by a standing train, if the engine or cars and the switch to be used are within same block, or if Rule 94 is in effect, the main track switch must be opened. After waiting five minutes, the train may pass signal to enter the main track. Personnel attending the switch must remain at the switch during the 5-minute period.

(5) Where track permits are authorized or within APB limits, a crew member must immediately contact the train dispatcher. Upon instructions “ (train) at (location) has permission to pass signal displaying Stop indication,” the train may proceed at restricted speed. Such instructions may be issued only when

there is no track permit in effect and there is no conflicting movement. If unable to secure authority from the train dispatcher, the train must not proceed until such authority is received or the signal displays a proceed indication.

Rule 313. Stop and Proceed Indication. At a signal displaying a Stop and Proceed indication the train will stop, then proceed at restricted speed; or the train may pass the signal at restricted speed without stopping for the following reasons:

- To leave main track when it is seen that the switch is lined for movement and the track is clear from signal to clearance point.
- To continue on main track when meeting or passing a train and it is known that the main track is clear to point at opposite end of siding where main track is fouled by train on siding.
- To permit an engine, with or without cars, to couple to its train or a standing cut of cars when intervening track is seen to be clear.
- To enter a switch which is not more than 1,000 feet beyond signal and the movement has received authorization from the employee in charge of the switch.
- In CTC territory, when a train is proceeding from the Stop indication on the authority of the control operator as prescribed by Rule 312. (This will apply to each succeeding signal displaying Stop and Proceed indication.)

- When a train is moving within track and time limits.

Rule 314. Movement from Signal Requiring Restricted Speed. When a train passes a signal requiring movement at restricted speed, movement must be made at restricted speed to the next governing signal or to the end of block system.

Rule 315. Hand Operation of Dual Control Switches. When authority has been obtained, or track and time limits have been secured from the control operator in CTC territory, or when permission has been obtained from the control operator in other territory to operate a dual control switch by hand, the switch may be operated as follows:

- Unlock switch lock.
- Place the selector lever in HAND position or remove the hand crank from holder.
- Operate the hand throw lever until the switch points are seen to move with movement of lever.
- Line the switch for the route to be used, or insert crank on shaft and turn until the switch is in desired position and turned as far as possible. Remove crank from shaft but do not return to crank holder.
- To return the switch to power, restore selector lever to POWER or MOTOR position and lock, or return crank to holder and secure it with the switch lock. After the switch has been restored to power, the control operator must be notified.

When the selector lever is in hand position or when the crank has been removed from the holder, signals governing movements over the switch will display Stop indication and will be superseded by hand signals. If possible, the engineer must be notified when the switch has been placed in hand operation and when it has been restored to power operation.

Rule 315(A). Dual Control Switches and Derails. Before proceeding from a Stop indication over a dual control switch or derail, the crew member must precede the movement and examine each dual control switch or derail to see that it is properly lined and that selector lever or hand crank, if present, is in the proper position. The crew member must remain at switch or derail until leading wheels have passed the signal governing movement over the switch or derail.

If the control operator cannot line the dual control switch or derail to the desired position, or the indication of the control machine does not show that the switch or derail is lined and locked, he must require the crew member to operate it by hand. The crew member must also ensure that the switch is properly lined, restored to power operation, and the control operator is notified. If the signal still indicates Stop and the control machine does not indicate that the switch or derail is properly lined and locked, repeat the procedure. After at least one unit or car has passed over the switch points or derail, it must be returned to power.

Rule 316. Reverse Movement. All reverse movements within a block must be made at restricted speed. On any track where APB is in effect, a reverse movement must not be made without flag protection or authority from the train dispatcher. On any track where CTC is in effect, a reverse movement must not be made without flag protection or authority from the control operator. Outside CTC limits, a train having passed beyond the limits of a block must not back into that block without flag protection, except where Rule 93 or Rule 94 is in effect or the movement is protected by a train order or a track warrant.

Rule 316(A). Reverse Movements at Interlocking. A reverse movement within the limits of an interlocking, or a forward movement after making a reverse movement, must not be made unless authorized by an interlocking signal indication or unless permission is given by the control operator. At automatic interlockings, reverse movements may be made if the train making the movement continuously occupies at least one car length of interlocking limits.

Rule 317. Entering Main Track at Hand Operated or Spring Switch. Within CTC territory, manual interlocking limits, or territory where Rule S-250 or Rule 252 is authorized, a train may enter the main track at hand operated or spring switch where there is no governing signal only on authority of control operator. The control operator must make sure that there are no conflicting movements before granting such authority.

In other territory within block system limits, the crew member or switch tender must open the switch and wait 5 minutes at the switch to establish block signal protection before the train enters the main track. The 5-minute wait is not required in the following circumstances:

- Where switch is equipped with an electronic lock.
- Where block occupancy indicator indicates block clear.
- When block signal governing movement to main track displays a proceed indication.
- When signals governing movements on main track indicate no train is approaching from either direction.
- Where block to be entered is occupied by a train, engine, or car that is either standing or moving away from the switch to be used.
- Outside yard limits when entering a main track for movement against the current of traffic.
- Where Rule 94 is in effect, provided movement is not made beyond Rule 94 limits for 5 minutes after main track circuit is fouled unless authorized by a proceed indication of a controlled signal.

Rule 318. Entering Block Between Signals. A train entering a block where there is no governing signal must move at restricted speed to the next governing signal.

Rule 319. Electrically Locked Switches and Derails.

Operation of switches and derails equipped with electric locks may be governed by general order, special instructions, or instructions posted near the switch. Within interlocking or CTC limits, personnel must not open door of case or unlock an electrically locked switch or derail without the authority of the control operator except to leave the main track or other track where CTC is in effect.

- The seal on the electric lock's emergency release must not be broken, nor the emergency release operated, without authority from the control operator or train dispatcher. The seal may be broken or release operated when communication has failed to—

- Permit a train to leave the main track.

- Permit a train to enter the main track if it has been authorized to do so.

When the seal has been broken or emergency release operated on an electric lock, the control operator or train dispatcher must be notified.

Rule 320. Stopping Before Block Occupied. When a train having passed a proceed indication of an absolute signal, stops less than one car length beyond such signal, it must not proceed again without complying with the requirements of Rule 312 unless such signal displays a proceed indication which can be seen clearly.

Rule 321. Suspension of Block System. The block system, or sections of it, may be suspended by train order or track bulletin when authorized by the

superintendent. The block system, or sections of it, must not be suspended until all trains and control operators in the affected territory have been notified by train order or track bulletin specifying the limits of the suspension.

Train orders or track bulletins issued suspending the block system must not be delivered to trains entering the affected territory until the affected limits are clear of trains, or until the train order or track bulletin has first been transmitted or delivered to all trains within the limits. When the block system, or sections of it, is suspended, the following will govern within the limits of suspension:

- Rules that apply to nonsignalled territory.
- Train order or track bulletin must be issued prescribing speed restrictions that will ensure safety, but not to exceed 59 mph for passenger trains and 49 mph for other trains.
- Block and interlocking signals will be disregarded whether extinguished or illuminated, except where signals govern movements over railroad crossings at grade or drawbridges; or, where signals are connected with track side warning detectors.
- Trains must approach signals and each end of limits suspended at restricted speed. Trains leaving the limits and moving into block system territory, must move at restricted speed until reaching the first signal in service beyond the limits. Signals governing

movements over railroad crossings at grade and drawbridges must be regarded as displaying Stop indication, regardless of aspect displayed, unless train order or track bulletin specifies that signals are in service

— If the crew has not been informed that signals governing movements over railroad crossings at grade are in service, flag protection in each direction on conflicting routes must be provided before proceeding over crossing. Crew must not rely on operation of time release or key controller as adequate protection while moving over crossing unless otherwise instructed.

- On single track, outside TWC limits, train order Form S-A must be used to establish meeting points between opposing trains.

- On multiple main tracks, a train order or track bulletin must designate the track or tracks upon which the block system is suspended and a train order or track bulletin must be issued to each train specifying the track to be used. A train must not make a reverse movement on that track, or cross over to or foul another main track unless a train order or flag protection is provided.

- Where automatic highway protection devices have been affected, the action to be taken at these locations must be specified by a train order or track bulletin.

- Remote control switches on the main track must be lined and locked for main track movement, switches equipped with selector levers locked in hand position, other remote control switches spiked, and all personnel

concerned must be notified. Until so informed by the train dispatcher, trains must stop and inspect remote control switches and foul circuit, being sure they are properly lined before passing over. A train order or track bulletin must be issued specifying the position in which remote control switches at the end of double track or end of multiple main tracks are to be left lined. If a conductor or engine foreman is notified concerning the position of remote control switches, those switches must be left in that position after having been used.

- Spring switches that are to be removed from service must be spiked and all personnel concerned must be notified. Trains must be prepared to stop when approaching facing point spring switches left in service. It must be known that the switch is properly lined before proceeding over switch.

- When the block system has been restored to normal operation, all trains within the affected territory must first be so notified by train order or track bulletin before authorizing a train to enter the limits and be governed by an operative block system.

Rule 322. Next Governing Signal. Except when movement at restricted speed is required by rule or by indication of previous signal, the indication of the next signal in advance may be complied with when the aspect can be clearly seen and it is known such aspect governs the track on which the movement is being made or is to be made.

Rule 323. Leaving Equipment in Interlocking
Engines or cars must not be detached and left standing entirely between the opposing interlocking signals governing movements at a railroad crossing at grade.

RULES APPLICABLE ONLY WITHIN CENTRALIZED TRAFFIC CONTROL LIMITS

Rule 350. Movements Authorized by Signal Indication. Within defined limits on designated tracks specified in the timetable or by special instructions, train movements will be authorized by block signals whose indications will supersede the superiority of trains for both opposing and following movements on the same track.

The movement of trains will be supervised by the train dispatcher, who will issue the necessary instructions.

Rule 350(A). Authority to Enter CTC. A train must not enter any track where the CTC is in effect unless there is a governing signal displaying a proceed indication or authority has been obtained from the control operator. Authority may be granted to enter such track without track and time limits in the words "Authority to enter (track) at (location) granted (train) for movement in (direction) ." After entering the track, the train is authorized to move only in the direction specified.

Rule 350(B). Clearing Through Hand Operated Switches. A train must not clear any track where CTC is in effect at a hand operated switch which is not equipped with an electric lock except in the following instances:

- Where the maximum authorized speed on a main track or a controlled siding equipped with intermediate signal does not exceed 20 mph.

- Where the maximum authorized speed on a controlled siding not equipped with intermediate signal does not exceed 30 mph.
- Where a signal is provided to govern movement to a track where CTC is in effect.
- When such switch is kept open.

Rule 351. Track and Time. A train may occupy a track or tracks within the specified limits for time periods authorized by control operator in the words: "Track and limits granted on (track) between (point) and (point) (time) until (time)." Track may be used in either direction within specified limits until the limits have been cleared or released without flag protection; but all movements must be made at restricted speed.

When the limits are designated by a switch, such limits extend only to the signals governing movement over the switch. Except at interlocking, trains granted track and time limits, after stopping, may pass a signal displaying a Stop indication to enter the limits. Without further authority they may pass signal without the limits displaying Stop and Proceed indication without stopping. Requirement for inspection of spring switches and remote control switches must be observed. Track and time limits do not authorize occupancy of main track within interlocking limits.

The track specified must be continuously occupied or a switch left open within the limits on such track. If for any reason, the track specified is cleared before the time stated, the track must not be occupied again, or fouled, without authority from the control operator.

Trains must be clear of the limits, or track and time released, before expiration of the time granted. If more time is required, authority must be obtained from the control operator before the authorized time limit has expired

If no other person has been granted track and time within the same limits, track and time may be released by a train while within the limits to move in a specified direction. Track and time will then be governed by signal indications upon verbal authority of the control operator in the words "Track and time limits granted (train) on (track) between (point) and (point) released for movement (direction) at (time) ." The control operator must be notified when the trains are clear of the limits, except when the control operator authorizes a train to leave the limits by signal indication. Limits will be considered released when the train has passed such signal and is clear of the limits.

TRACK WARRANTS AND BULLETINS

The rules in this chapter pertain to those orders and instructions governed by track warrants and bulletins. Figure 5 shows an example of a type of track warrant.

RULES APPLICABLE ONLY WITHIN TRACK WARRANT CONTROL (TWC) LIMITS

Rule 400. Authority. Where designated by special instructions or general order, use of the main track will be authorized by issuance of a track warrant, under the direction and over the signature of the train dispatcher. Track warrants are numbered consecutively from the beginning of each calendar date. Within TWC territory there is no superiority of trains and trains will not be authorized by train order or timetable schedule.

Rule 401. Designated Limits. The limits of a track warrant are designated by specifying track, where required, and exact points such as switches, mile poles, or identifiable points. Station names may be used. When a station name is used to designate the first named point, the authority will extend from the last siding switch or from a station sign if there is no siding.

When a station name is used to designate the second named point, the authority extends to the first siding switch or to the station sign if there is no siding. At the

second named point, authority extends to the last siding switch when specific instructions include "hold main track at last named point. "

Rule 402. Requesting. Personnel requesting a track warrant must advise the train dispatcher of the movements to be made and, when applicable, the tracks to be used and time required.

Rule 403. Copying. The conductor and the engineer must have a copy of the track warrant addressed to their train or engine. The track warrant will show the date, location, name of person who copied it, and any specific instructions issued. All information and instructions are entered on the track warrant form provided and repeated to the train dispatcher. The dispatcher will check the copy and, if correct, will give an "OK" and the time. The OK time is entered on the track warrant and repeated to the train dispatcher. The track warrant is not considered in effect until the OK time is shown on it. If the track warrant restricts movement or authority previously granted, it is not considered in effect by the train dispatcher until acknowledgement of the OK has been received. Track warrants are relayed by authorized personnel, who must then record the message on a track warrant.

Rule 404. Designation of Trains. In track warrants and track bulletins, trains are designated by engine number and direction when applicable. When an engine of another company is used, it is designated by the initials or name of the company preceding the engine number.

Rule 405. Mechanical Transmission. At points designated by special instructions, track warrants and

TRACK WARRANT	
NO.	_____ 19_____
TO:	_____ AT: _____
1.	☐ TRACK WARRANT NO. _____ IS VOID.
2.	☐ PROCEED FROM _____ TO _____ ON _____ TRACK.
3.	☐ PROCEED FROM _____ TO _____ ON _____ TRACK.
4.	☐ WORK BETWEEN _____ AND _____ ON _____ TRACK.
5.	☐ NOT IN EFFECT UNTIL _____
6.	☐ THIS AUTHORITY EXPIRES AT _____
7.	☐ NOT IN EFFECT UNTIL AFTER ARRIVAL OF _____ AT _____
8.	☐ HOLD MAIN TRACK AT LAST NAMED POINT.
9.	☐ DO NOT FOUL LIMITS AHEAD OF _____
10.	☐ CLEAR MAIN TRACK AT LAST NAMED POINT.
11.	☐ BETWEEN _____ AND _____ MAKE ALL MOVEMENTS AT RESTRICTED SPEED. LIMITS OCCUPIED BY TRAIN OR ENGINE.
12.	☐ BETWEEN _____ AND _____ MAKE ALL MOVEMENTS AT RESTRICTED SPEED AND STOP SHORT OF MEN OR MACHINES FOULING TRACK.
13.	☐ DO NOT EXCEED _____ MPH BETWEEN _____ AND _____
14.	☐ DO NOT EXCEED _____ MPH BETWEEN _____ AND _____
15.	☐ PROTECTION AS PRESCRIBED BY RULE 99 NOT REQUIRED.
16.	☐ TRACK BULLETINS IN EFFECT: _____ _____
17.	☐ OTHER SPECIFIC INSTRUCTIONS: _____ _____ _____
OK _____ DISPATCHER _____	
RELAYED TO _____ COPIED BY _____	
LIMITS REPORTED CLEAR AT _____ BY _____	
(Mark "X" in box for each item instructed)	

Figure 5. A Type Track Warrant

track bulletins may be transmitted mechanically. When so transmitted, repetition will not be required. OK time will be given at the time transmitted and the name of the train dispatcher will be shown in the space provided for name of copying personnel. Track warrants restricting the authority or movement of a train must not be sent in this manner unless it is known that the train being restricted will not leave the point without receiving the track warrant. Special instructions will prescribe how track warrants and track bulletins are to be delivered at these points.

Rule 406. Specific Instructions. Track warrants will include specific instructions which must be complied with by those addressed. Each track warrant must be given in the same words to all personnel addressed. Once in effect, the track warrant must not be added to or altered in any manner except as provided by Rule 411.

Rule 407. Changing Track Warrant. When a track warrant is in effect and the limits or instructions are changed, a new track warrant is issued with the instructions and will include the words "Track Warrant No _____ is void." When a track warrant of a previous date is voided, the date must be included. The previous track warrant will no longer be in effect.

Rule 408. Operating with Track Warrant. A track warrant authorizes the train or engine addressed to occupy the main track within designated limits. The train must not foul a switch at either end of the limits which may be used by an opposing train or engine to

clear the main track. Movement must be made as follows:

- When authorized to proceed from one point to another, movement is authorized only in the direction specified.
- When authorized to "work between" two specific points, movement may be made in either direction between those points.

Rule 409. Occupying Same Limits. Not more than one train or engine is permitted to occupy the same or overlapping limits of a track warrant at the same time, except in the following circumstances:

- All trains or engines within the limits have been authorized to move only in the same direction and are required to provide flag protection as prescribed by Rule 99.
- Two or more crews performing switching or work service have been notified of each other and instructed that all movements must be made at restricted speed within the overlapping limits.

Rule 410. In Effect. A track warrant is in effect until a crew member reports the train clear of the limits, the warrant becomes void, or the time limit expires. The crew member must report to the train dispatcher when they have cleared the limits. If a time limit is shown on the track warrant, a train or engine must be clear of the limits by the time specified, unless another track warrant has been obtained.

Rule 411. Marking Void. The word VOID must be written legibly across each copy of the track warrant

when a crew member has reported the train or engine clear of the limits, the time limit specified has expired, or the track warrant has been changed as prescribed by Rule 407.

Rule 412. Protecting Men or Machines. A track warrant permitting men or machines to occupy or perform maintenance on main track without other protection is issued in the same manner as that for trains or engines.

- A track warrant must not be issued to protect men or machines within the same or overlapping limits with a train or engine, except in the following circumstances:

- All trains or engines authorized to occupy the same or overlapping limits have been authorized to move in one direction only and the track warrant specifies that it is granted behind such trains or engines.

- Trains or engines authorized to occupy the same or overlapping limits have been notified of the authority granted to the men or machines, have been instructed to make all movements at restricted speed, and have been instructed to stop short of men or machines on or fouling track. The person in charge of maintenance must be so notified by a track warrant. If track is not safe for movement at restricted speed, personnel in charge must protect such track by placing red flags according to Rule 10(A).

Rule 413. Movement Against the Current of Traffic. When a track warrant authorizes movement against the current of traffic, the train or engine must use only the track designated within the limits specified.

TRACK BULLETIN RULES

Rule 450. Track Bulletins. Within TWC territory and other territories designated by special instructions, track bulletins will be issued by the train dispatcher as required. Bulletins contain information as to all conditions affecting the safe movement of trains or engines. When track bulletins are authorized, trains and engines must receive a track warrant at their initial station unless otherwise instructed by the train dispatcher. All track bulletins which affect their movement must be listed on the track warrant. The conductor and engineer must have copies of all track bulletins listed, and each crew member must read and understand the requirements of track bulletins received by them. FM 55-20 is the prescribing directive for the track bulletin.

Rule 451. Transmitting Track Bulletins. A track bulletin may be transmitted verbally or mechanically. When a track bulletin has been transmitted verbally, personnel copying it must repeat it at once from their copies. When the track bulletin has been repeated correctly, the train dispatcher will respond "OK" and give the time and his initials. The individual will show in the space provided the OK time, his last name, and the train dispatcher's initials, and repeat "OK" and the time to the train dispatcher.

Rule 452. Retaining Track Bulletins. Track bulletins must be retained and complied with on all trips made during the tour of duty on which they were received.

Rule 453. Relieved During Trip. When a conductor or engineer, or both, is relieved before the completion of a

trip, all track warrants, track bulletins, and instructions held by them must be delivered to the relieving conductor or engineer. If they cannot be personally delivered to the relieving crew, the conductor will leave them in an envelope at a location designated by the train dispatcher and show the correct designation of the train, date, location, and conductor's signature on the envelope. Track warrants, track bulletins, instructions, and pertinent information must be compared by the relieving conductor and engineer and with the train dispatcher before proceeding.

Rule 454. Restriction to Crew Member. A track bulletin or track warrant restricting a train or engine must not be transmitted to a crew member until the conductor or engineer assures the dispatcher that both of them understand the order and can comply with the restriction.

Rule 455. Protection by Track Bulletin. During the time and within the limits stated in track bulletin, trains and engines must move at restricted speed and stop short of men or machines fouling track or a red flag placed to the right of the track. Movement must continue at restricted speed unless otherwise verbally instructed or unless the entire train has passed a green flag or has cleared the limits.

The engineer must attempt to contact the person in charge by radio sufficiently in advance to avoid delay, advising his location and specifying track. In granting verbal authority, use the words "Foreman (name) (of Gang No _____) using track bulletin No _____ line No _____ between MP _____ and MP _____ on _____ Subdivision."

To authorize train or engine to pass a red flag, or enter limits, without stopping, use the words "(train) may pass red flag located at MP _____ (or enter limits) without stopping." A train or engine may pass red flag, or enter limits, without stopping, continue to move at restricted speed, and must stop short of men or equipment fouling track.

To authorize a train or engine to proceed at a speed greater than restricted speed, use the words "(train) may proceed through the limits at _____ mph (or at maximum authorized speed)." The train may proceed through the limits at the prescribed speed unless otherwise restricted.

To require the train or engine to move at a speed less than restricted speed, use the words "(train) proceed at restricted speed by not exceeding _____ mph (if necessary add "until reaching MP _____ "). The train must not exceed the prescribed speed and must be prepared to stop short of men or equipment fouling the track or a red flag to the right of the track.

These instructions must be repeated by the engineer and "OK" received from the person giving them before they are acted upon. When the word STOP is written in the Stop column, the train or engine must not enter the limits until verbal authority is received from the person in charge. Yellow flags must be displayed as prescribed by Rule 10 in Chapter 2.

Rule 456. Excessive Dimension Equipment. When excessive dimension equipment is handled, the train dispatcher must issue the necessary instructions to arrange a point for meeting or passing trains where

there is enough clearance. He may also issue any additional precautions which may be required.

A crew handling such equipment must ensure that it will clear nearby objects including equipment on adjacent tracks, and if unable to reach a point where clearances are sufficient, must see that protection is provided against movements on adjacent tracks. The crews affected must be issued a track bulletin advising them of such equipment and the train or engine which is handling it. They are responsible for taking the proper precautions before passing or meeting the equipment.

Rule 457. Tracks Blocked with Equipment. When main tracks, sidings, or other tracks, which are normally clear for movement, are to be blocked with equipment which cannot be placed in the clear, the train dispatcher must be notified. The train dispatcher ensures that all crews and other personnel concerned are notified. When the main track is blocked, protection is provided as prescribed by Rule 99.

Rule 458. Tracks Removed from Service. Protection must be provided when a track is to be removed from service. The protection may be provided by a track bulletin designating the track and giving the exact points between which it is removed from service. Such track must not be used unless the track bulletin gives the name or title of the person who may authorize its use. When so indicated, movement must be made only under the direction of the person authorizing use of the track. When required, a train dispatcher must advise crews of the alternate routes to be used and the position of switches.

Rule 459. Change of General Order or Special Instructions. General orders or special instructions may be issued, changed, or cancelled by a track bulletin. Any safety requirement which is removed as a result of changing or canceling general orders or special instructions must be reinstated by track bulletin. General orders or special instructions which are cancelled in this manner must not be reinstated by track bulletin. Track bulletin must not be delivered to all personnel affected until the cancellation is issued by general order and the general order is posted.

Rule 460. Delivering Track Bulletins. Personnel receiving track bulletins must ensure that all copies are delivered unless the track bulletin is voided or transferred to relieving personnel. When copies have been delivered to all addressed, a copy will be kept on file.

Rule 461. Additional Copies of Track Bulletins. If necessary to make additional copies of track bulletins, except when duplicated as prescribed by Rule 462, the additional copies must be repeated to the train dispatcher and correctness ensured before delivery. The train dispatcher records the date, time, place, and name of person who recopied and repeated the track bulletin.

Rule 462. Duplicating Track Bulletins. Repetition of the track bulletins to the train dispatcher will not be required when they are reproduced by duplicating machine. When so duplicated, they must not be delivered or acted upon until they are checked and known to be clear, legible, and duplicate in their entirety.

RAILROAD RADIO RULES

The following rules and requirements cover use of railroad radio systems and govern personnel using such systems.

Rule 501. Internal Adjustments. All personnel except those specifically authorized by the Federal Communications Commission (FCC) or those holding a current Certified Technician's Certificate, are prohibited from making any internal adjustments to a railroad radio. Authorized personnel must carry their FCC operator license, Certified Technician's Certificate, or verification card when on duty.

Rule 502. Prohibited Transmissions. Personnel shall not knowingly transmit any false emergency communication, any unnecessary, irrelevant, or unidentified communication, nor utter any obscene, indecent, or profane language via radio. Personnel shall not divulge or publish the existence, contents, effect, or meaning of any communications (emergency communications excluded) except to the person for whom the communication is intended or to another individual of the railroad whose duties may require knowledge of the communication. The above applies either to communications received directly or to any that may be intercepted.

Rule 503. Emergency Calls. Any emergency call will be preceded by the word "Emergency" repeated three times. Such calls shall be used to cover initial reports of derailments, collisions, storms, washouts, fires, or obstructions to track. Emergency calls also cover other matters which would cause serious delay to traffic, damage to property, or injury to personnel or the traveling public. They must contain as complete information as possible. All personnel must give absolute priority to communication from a station in distress, and except in answering or aiding that station, shall refrain from sending any communication until ensuring that no interference will result.

Rule 504. Inspections. Any personnel shall permit inspection of the radio equipment in his charge and all FCC documents pertaining to such equipment by an accredited representative of the FCC at any reasonable time.

Rule 505. Locations. The location of radio base and wayside stations, the time such stations are attended, and assigned channels, will be designated by timetable or other instructions.

Rule 506. Transmitting. Before transmitting, any individual operating a radio must ensure that the channel is not already in use. The operator must give the required identification, listen for acknowledgment from the person receiving the transmission, and must not proceed with the transmission until such acknowledgment is received.

Rule 507. Identification. Personnel transmitting or acknowledging a radio communication must begin with the required identification. The order must include the following information:

- **Base or wayside stations** - Name or initials of the railroad, and name and location or other unique designation of office or station.

- **Mobile units** - Name or initials of the railroad, train name (number), engine number, or words that identify the precise mobile unit.

- If an exchange of communication continues without substantial interruption, personnel must repeat identification each 15 minutes. After positive identification has been made in connection with switching, classification, and similar operations wholly within a yard, fixed and mobile units may use short identification after the initial transmission and acknowledgment.

Rule 508. Acknowledgment. A person receiving a radio call must not delay acknowledgment unless it would interfere with duties relating to safety.

Rule 509. Repetition. An individual who receives a transmission must repeat it to the transmitting party, except when the communication-

- Relates to switching operations.
- Is a recorded message from an automatic alarm device.

- Is general in nature and does not contain any information, instruction, or advice which could affect the safety of a railroad operation.

Rule 510. Over. To indicate to the receiving person that the transmission is ended and that a response is expected, the transmitting person must say the word "over."

Rule 511. Out. To indicate to the receiving person the exchange of transmissions is complete and that no response is expected, the transmitting person must state his identification followed by the word "out."

Rule 512. Monitoring. When base and wayside stations or mobile units are manned, the radio must be turned to the appropriate channel with the volume adjusted to receive communications. All transmissions directed to a manned station or mobile unit must be acknowledged.

Rule 513. Misuse. Radio communication must not be used to avoid compliance with any rule.

Rule 514. Not Understood or Completed. Any radio communication which is not understood or completed according to these rules must not be acted upon and must be treated as though it was not sent. An exception would be if any information is received which would affect the safety of personnel or the public or cause damage to property. If necessary, movement must be stopped until an understanding has been reached.

Rule 515. Testing. Radios used in train operation outside yard limits must be tested at the point where the train is originally made up.

Rule 516. Operative Radio. Engineers and conductors must test the radios at least once during each tour of duty to ensure that the radios are working.

Rule 517. Test Transmission. Radio tests must consist of an exchange of voice transmissions with another radio. Radio tests help ensure that voice transmissions are readable and of good quality.

Rule 518. Malfunctioning Radio. A malfunctioning radio must not be used. Each crew member, the train dispatcher, or other designated personnel must be notified of the malfunction by alternate means of communication as soon as possible.

Rule 519. Fixed Signal Information. A radio must not be used to give information to a train or engine crew about the name, position, aspect, or indication displayed by a fixed signal. Such information may only be given between members of the same crew or when necessary to give warning in an emergency.

Rule 520. Lieu of Hand Signals. When radio is being used in lieu of hand signals, both the direction and distance to be traveled must be given. Movement must be stopped in one-half the distance specified unless additional instructions are received.

Rule 521. Transmitting Train Orders. When train orders are transmitted by radio, they must be transmitted according to applicable operating rules, and the following guidelines:

- The train dispatcher or operator shall call the addressees of the train order and state his intention to transmit the train order.

- Before the train order is transmitted, the person to receive and copy the train order shall state his name, rank identification, location, and that he is prepared to receive a train order. Train orders may not be copied by a person operating the controls on an engine of a moving train. Train orders are not transmitted to the crew of a moving train. The conductor, the engineer, or the train dispatcher must decide if the train order can be received and copied without impairing the safe operation of the train.

- Train orders shall be copied in writing by the receiving person in the format prescribed in the operating rules.

- Except as provided by Rule 514, before a train order is acted upon, both the conductor and engineer must have a written copy of the train order. They must ensure that the train order is read and understood by other members of the crew.

- Except as provided by Rule 514, a train order transmitted by radio which has not been made complete may not be acted upon and must be treated as though not sent.

- Information contained in a train order may not be acted upon by persons other than those to whom the train order is addressed. "Complete" must not be given to a radio transmitted train order for other trains until "Complete" response has been acknowledged by the train being restricted.

Rule 522. Transmitting Track Warrants and Track Bulletins. When radio is used to transmit track warrant or track bulletin, rules applicable only within two limits and track bulletin rules will govern. They must not be copied by a soldier operating the controls on an engine of a moving train.

Rule 523. Blasting Operations. Do not operate radio transmitters when they are less than 250 feet from blasting operations.

Rule 526. Clarity. If necessary for clarity, the phonetic alphabet shall be used to pronounce any letter used as an initial, except initial letters of railroads.

CONDUCT OF PERSONNEL AND SAFETY

The following rules deal with the conduct of personnel on duty and safety in performing tasks and handling equipment.

GENERAL RULES OF CONDUCT

Rule 600. To Whom Personnel Report. Personnel whose duties are prescribed by these rules will report to and comply with instructions from supervisors, and others having the proper jurisdiction. They will comply with instructions issued by officers of the various branches of service when applicable to their duties.

Rule 601. Games, Reading. While on duty, personnel must not play games or read magazines, newspapers, or other literature not related to their duties. They must not use radios, tape recorders or players, or television sets other than those provided by the government.

Rule 602. Sleeping. Personnel must not sleep while on duty. Personnel who are in a reclined position with eyes closed will be considered in violation of this rule.

Rule 604. Duty-Reporting or Absence. Personnel must report for duty at the designated time and place.

They must devote themselves exclusively to the government's service while on duty. They must not be absent from duty, exchange duties, or substitute others in their place without proper authority.

Rule 607. Conduct. Personnel must not be careless of the safety of themselves or others, negligent, insubordinate, dishonest, immoral, or quarrelsome.

Rule 608. Altercation. Personnel must not fight, play practical jokes, scuffle, or wrestle while on duty.

Rule 609. Care of Property. Personnel are responsible for the proper care and use of government property entrusted to them. Upon demand by proper authority, they must return such property. Only personnel who are issued switch keys are authorized to use such keys in the proper performance of their duties. Personnel must not use government property for their personal use.

Rule 610. Not Permitted on Equipment. Unauthorized persons are not permitted to be on trains, engines, or cars.

Rule 611. Altering Equipment. Personnel must not alter, nullify, change the design of, or in any manner restrict or interfere with the normal intended function of any device or equipment on locomotives, cars, or other railroad property without proper authority except in case of emergency. All emergencies must be reported to the proper officer.

Rule 612. Clean Premises. Railroad premises must be kept in a clean, orderly, and safe condition. Railroad buildings, facilities, or equipment must not be marred or defaced. Only information which is authorized by the proper officer or required by law may be posted in or on railroad property.

Rule 615. Divulging Information. Personnel who are charged with the writing, handling, and custody of correspondence, reports, books, bills of lading, waybills, tickets, or statistics of the railroad must not, under any circumstances, permit unauthorized persons access to these items. They must not verbally or otherwise divulge any of the information contained therein.

Rule 616. Hazardous Materials. Personnel who handle hazardous materials must have a copy of the instructions or regulations for handling them. They must be familiar with the instructions and comply with them.

Rule 617. Fire. Every precaution must be taken to prevent loss and damage by fire. The presence of fire on or near the right of way must be reported promptly to the train dispatcher unless such fires are being controlled. If there is danger of fire spreading to a bridge or other structure, trains must be stopped and members of the crew must assist in extinguishing fire. The cause of fire must be determined and promptly reported. The conductor must notify the engineer and the train dispatcher promptly of fires which may have been started by their train.

Rule 618. Defective Equipment. Personnel must ensure that equipment and tools used are not defective. Defective tools must not be used until they are made safe. Personnel must report defects to the proper authority.

Rule 619. Avoiding Delays. Trains and engines must be operated expeditiously, with consistent observance of safety and rules. Unnecessary delays must be avoided. When practicable, train or engine crews desiring to stop train to eat must notify the train dispatcher at least one hour and thirty minutes in advance. The stop for a meal must not unnecessarily interfere with or delay other trains.

Rule 620. Riding Engine. When possible, crew members on the head end of freight trains must ride in the control compartment of the engine if there are not more than six people riding. When the conductor is riding the head end, he will ride in the control compartment.

Rule 621. Furnishing Information. Personnel must not withhold information. They must give all the facts regarding irregularities, accidents, personal injuries, or rule violations to those authorized to receive such information.

Rule 622. Safety Rules. Personnel must be familiar with the rules and comply with them.

Rule 623. Air Brakes—Train Handling. Personnel whose duties are affected by the operation of air brakes must have a copy of rules and instructions for the operation of air brakes and train handling. They must be familiar with and obey such rules and instructions.

Rule 626. Repairs to Foreign Cars. Report repairs made to foreign cars on the prescribed form.

Rule 627. Inspection of Freight Cars. Where personnel are not on duty to inspect freight cars, each car placed in the train maybe moved after receiving safety inspection as follows:

- A freight car with any defect that makes it unsafe for movement shall be corrected or set out of the train.
- Cars must be checked for leaning or listing to side; sagging; improper positioning on truck; anything hanging or dragging from car or extending from side; insecurely attached doors; broken or missing safety appliance; lading leaking from a placarded hazardous material car; insecure coupling device; overheated wheel or journal; broken or cracked wheel; brake that fails to release; or any apparent hazard likely to cause an accident.
- Open top loads, including trailers and containers on flatcars, must be safely loaded.
- Where width or height appears close to clearance lines, ensure that the movement has been cleared with the proper authority.
- A freight car with three bad order tags indicating that the car is safe to move maybe handled to nearest repair point. The conductor will remove one bad order tag from the side having two tags so that he will have written information relative to the restrictions. After removing the bad order tag, he will inform other crew members of such restrictions.

Rule 627(A). Overheated Wheels. If overheated wheels are found on a train, the train must be stopped and held at least 10 minutes to allow the heat to equalize through the wheel.

Rule 628. Flat Spots. Equipment with a wheel having a flat spot more than 2 1/2 inches long or adjoining flat spots 2 inches long must not be moved in excess of 10 mph. If such equipment is in a train, it must be set out at the first available point.

Rule 629. Dump Doors. Dump doors on cars must be closed after load is dumped. If necessary to move cars short distances with dump doors open, personnel must ensure that the doors and chains can clear tracks and crossings.

Rule 630. Excessive Dimension Loads. Excessive dimension loads should be placed on or near the head end of trains. Instructions will be issued when excessive dimension loads are to be handled in train when clearance of structures is extremely close. A train must stop before passing such structures and movement should be made only on hand signals or verbal communication. If an excessive dimension load is in a train where the clearance at any structure or equipment on an adjacent track is questionable, and no instructions have been issued regarding the handling of such a car, the conductor will immediately notify the train dispatcher. He must take necessary action to ensure safety of movement.

Rule 631. Open Top Loads. Open top cars and open top TOFC loaded with poles, rail, lumber, pipe, or other commodities having any of the lading extending above the car or trailer ends which may shift and protrude

beyond the car ends, must not be placed in trains next to engines, cabooses, occupied outfit cars, passenger cars, shipments of automotive vehicles and machinery that are not fully enclosed, loads placarded "Explosives A" or "Poison Gas," or any placarded loaded tank car, except those placarded "Combustible."

Rule 632. Shipments Susceptible to Damage.

Shipments with painted or finished surfaces that are susceptible to damage, such as automobiles, trucks, tractors, combines, and other similar equipment or machinery, must not be placed closer than the fifth car behind open top cars loaded with commodities such as coal, sand, gravel, lime, or soda ash, which are subject to wind, vapor, or fume action on adjacent cars. They may be placed closer than the fifth car when such commodities are loaded in cars that fully enclose the shipments, or the shipment is otherwise fully covered.

Multi-level shipments of automotive equipment or open top cars loaded with sand, gravel, lime, soda ash, and so forth, which are subject to wind, vapor, or fume action, in other than solid trains must not be placed immediately ahead of cabooses.

Rule 633. Engine Operation. The engineer is responsible for the safe and efficient operation of the engine in his charge. All persons employed on the engine must obey the engineer's instructions with regard to the operation of the engine. The fireman or engineer trainee may handle the engine under the close supervision of the engineer. The engineer must determine if any cars or units in the train require special handling by checking with the conductor.

Rule 634. Engines Coupled to Equipment. Engines coupled to equipment which includes occupied passenger cars must not be left without an authorized person in charge.

Rule 636. Separating Units. Units of engines must not be separated until all cables, air hoses, steam connections, and other connections have been disconnected.

Rule 637. Accuracy of Speed Indicators. Engineers must verify the accuracy of speed indicators at least twice during each trip. The first check must be made at the first opportunity after the engineer takes charge of the engine. When the speed indicator is not accurate to within 3 mph plus or minus, report any variance to the train dispatcher at the first opportunity.

Rule 638. Stopped in Tunnels. When an engine is stopped in a tunnel under conditions preventing prompt movement, diesel engines and steam generators must be shut down promptly and air brakes must be fully applied. Also, hand brakes must be applied throughout the train to prevent movement should airbrakes leak off.

Local conditions must be carefully considered. There may be situations where the exhaust gases are being carried away from the train by air currents, or where proximity to a tunnel opening would make it unnecessary to shut down these engines. Safety of passengers and crew members is the first priority.

Rule 639. Gases and Exhausts in Tunnels. An excess concentration of dangerous gases present in exhausts

from various types of engines, steam generators, or engines of the Waukesha or similar type may cause incapacities or fatalities. This could result when a train is stopped in a tunnel. Exhaust from such engines must not be located in close proximity to fresh air intake of passenger cars. Where such engines are operated, ensure that proper ventilation is provided at all times.

In the event that a passenger train is stopped in a tunnel, regardless of the type of power being used, cars within the tunnel must shut off air circulating systems, including air-conditioning systems, ice machines, and engine generators. They must close fresh air intake shutters and shut off blower fans. The same action must be taken when a passenger train is stopped in deep snow and exhaust gases cannot dissipate. Certain gases are not readily detected by odors so immediate action must be taken. Do not waste time in deciding when the train may be started; take the safe course and act at once. The train dispatcher should be notified immediately and proper arrangements made to protect persons and equipment.

Rule 640. Reporting Engine Defects. The engineer will report any defect of the engine on the form provided for that purpose. He will also notify the relieving engineer.

Rule 641. Agents. Station agents are under the direction of the superintendent and trainmaster. They have general supervision over all persons at their respective stations. They are responsible for efficient and economical operation of the station, and for keeping the premises neat and clean. They have jurisdiction

over the buildings and other government property at their station.

Rule 642. Operators. Operators are under the direction of the train dispatcher insofar as their duties are concerned in the handling of train orders, lineups, the movement of trains, and any other instructions issued by the train dispatcher.

PERSONAL INJURIES AND ACCIDENTS

Rule 800. Care for Injured. When passengers or personnel are injured, everything possible must be done for their proper care.

Rule 801. Deceased. In case of death on a train, the body should be left at the first station where the services of an undertaker are available unless otherwise directed by civil authorities.

In case of death on government property, or when a corpse is found on government property, the body must receive proper care and, when necessary, be moved to a proper place to provide a clear passage for trains. After the exact position in which the body was found and the surrounding conditions have been carefully noted, it must be left in charge of a unit member or other responsible person.

Rule 801(A). Safety. Personnel must report the full details of all personal injuries to the proper supervisory officer. Personnel must be suitably dressed to perform all duties safely. Wearing shorts or working without a shirt is prohibited. Shirts must cover the back, shoulders, chest and abdomen. Excessively oily, greasy, torn, loose, or frayed clothing is not permitted.

Shoes with excessively thin or loose soles will not be worn.

Personnel working on or about tracks, and others who are subject to foot injuries by the nature of their duties regardless of location, must wear substantial (preferably leather) shoe or boot-type footwear in good repair. Footwear must cover the entire foot, and have a defined heel of not more than 1 1/2 inches in height. High-top (6 inches or more), laced safety shoes are recommended. Personnel wearing buckle-type boots or overshoes must keep buckles of such footwear securely fastened. Lace-type footwear must be properly laced and tied.

Personnel working on or about moving equipment or machinery with moving parts, or in areas where open fires or sparks may be present, must keep their hair cut. Hair must also be protected to avoid the possibility of it becoming entangled, enmeshed, or burned. Hair must not interfere with a person's vision, or the proper fitting of required personal protective equipment. Personnel must not wear ear coverings or devices which seriously interfere with their hearing.

The operator or person in charge must advise occupants of highway motor vehicles and certain rail equipment that safety belts must be used on equipment when available. Personnel using or operating government equipment and highway motor vehicle are governed by all pertinent regulations and instructions. Scuffling, horseplay, practical jokes, and all similar conduct is prohibited while on duty or on government property. Personnel must use normally

accepted and designated paths, walkways, or routes in going to, from, and within yards, shops, stations, buildings, and other places of employment. "Short-cuts" are prohibited. While walking, look in the direction of movement and stay clear of holes, openings, or other slip, trip, or fall hazards. If it is necessary to look away from the direction of movement, stop while doing so. If another route is available, do not walk through smoke or escaping steam which obscures vision. Trespassing on government property is prohibited. Personnel must use reasonable means to prevent it; however, personnel are not expected to endanger themselves in complying with this rule.

Boards with protruding nails, rail, ties, couplers, knuckles, scrap, ballast mounds, and other underfoot obstructions must be promptly removed from the premises where personnel walk or work. Aisleways, walkways, steps, and driveways must be kept free of debris, tools, equipment, and other material. Trash and refuse must be placed in containers and not thrown on the floors of buildings or strewn about the premises. Holes left in and around tracks or buildings must be adequately covered or protected by proper barricades and warning lights. Manholes and pit entrance openings must be protected when open, and they must be closed immediately after the work is finished. Jumping across locomotive pits or other open pit areas is prohibited. Getting on or off moving turntables, transfer cables, elevators, drawbridges, shop trucks, tractors, or highway vehicles is prohibited.

The use of gasoline or other highly flammable liquids for cleaning purposes, or to start or stimulate fires is

prohibited. Smoking or having open flames or oil-burning lanterns is prohibited—

- In enginerooms of locomotives, cranes, or derricks that are equipped with internal combustion engines.
- Around diesel oil, gasoline, or LP gas fueling stations or storage facilities.
- While servicing or inspecting batteries.
- While fueling locomotives, vehicles, or machines.
- While in or near manhole, sewer, tank, or tunnels, where flammable gases may be present.

Fueling vehicles or machines with engine running is prohibited as well as using compressed air or gases to clean dust or other debris from the body or from clothing. Admitting compressed air or gases to non-pressure (vacuum) vessel or tank is prohibited.

Crossing over between locomotives or cars except when necessary in the performance of duty is prohibited. Stepping on cut levers, couplers, or other movable parts is prohibited. Personnel must not crawl under locomotives or cars except when working on such equipment, and then only when proper protection is provided.

Personnel are prohibited from using the anglecock to control the movement of locomotives and cars except where it is absolutely necessary. Back-up hoses, hand signals, radios, or speakers should be used in controlling moves to be made. The use of equipment machinery, power tools, or appliances of any kind by unauthorized or unqualified persons is prohibited. Be sure that no one is in a position to be injured before

operating valves, controls, or switches on machinery which could activate component parts that could cause injury. Before using tools, appliances, machines, vehicles, or other equipment, personnel must be sure that they are in safe condition. Defective items must be repaired or removed from service promptly.

Personnel are prohibited from riding on locomotives, freight cars, motor, hand, push cars, or any work equipment except when necessary to perform their duties. Standing on improvised scaffolds or supports made of boxes, barrels, and chairs is prohibited; only equipment approved for that purpose may be used. Standing near cables, ropes, or chains that are under tension or being pulled, or standing in the path of or under a load, bucket, or magnet of hoisting equipment is prohibited.

Do not throw or drop anything from locomotives, cabooses, passenger or freight cars, trucks, wharves, scaffolding, or any higher levels, without first making sure that no one is in a position to be injured. Refuse materials must be placed in proper containers or other designated locations.

Personnel passing cutting or welding operations where goggles or shields are required are prohibited from facing or watching such operations without proper eye protection.

Operating any type of internal combustion engine in an enclosed space without adequate ventilation is prohibited. Before removing valves, caps, plugs, or other parts subject to pressure from boilers, reservoirs, tanks or other pressure vessels, the relief valves must

be opened and the pressure completely exhausted. Personnel are prohibited from passing over or under safety valves or automatic blow-down valves on stationary boilers or steam generators under pressure.

The use of a metallic tape line of any kind, wire, wet rope, or other conductive materials to measure the height of any wire or the distance between wires or other electrical conductors is prohibited. Persons using portable telephones must be cautious when making connections to communications lines. They must ensure that connections are not made to power or signal lines, which may be located on the same pole.

Care must be used when handling materials shipped in metal drums, such as, but not limited to, metal preservatives, carbolineum, creosote, cold patch asphalt, and so forth. When necessary to remove the bungs from metal drums containing these or other gaseous products, keep all parts of the body away from the products. The bungs must be screwed out slowly to allow pressure to escape before the bung is removed. The drum must be positioned so that the opening is not blocked by material in the drum while the bung is being removed. The heating of any of these materials is prohibited except when authorized by special instructions, and then it must be done under direct supervision, in an open container, or in a drum from which the entire head has been removed. Care must be taken to see that there is no accumulation of gas or fumes.

Persons working around electrical equipment must not use metal cased flashlights or lanterns. They should not wear rings, wrist watches, or other metal apparel that could come in contact with energized

equipment. Rings, bracelets, or necklaces must not be worn in areas where they could create a snagging hazard to personnel working near machinery, getting on and off equipment, or handling materials. When getting off of equipment or ladders, examine landing areas before stepping down and retain a handhold until the foot can be properly placed to avoid sprains, falling, or turning ankles.

Metal contact must be maintained between metal containers while gasoline or other highly flammable liquids are being poured from one to another to prevent fires or explosions from sparks or static electricity. Where direct contact cannot be maintained, a wire with suitable connectors or clips must be used for this purpose. Gasoline or other highly flammable liquids must not be carried or stored in buses, automobiles, or in truck cabs. When necessary to carry a reserve supply of gasoline on trucks, approved containers must be used. Containers must not be carried in enclosed spaces, and must be protected from impact.

Rule 801(B). Personal Protective Equipment. All personnel must wear approved eye protection when performing work hazardous to the eyes or when in the vicinity of such work. Some of the principal job functions requiring eye protection are—

- Chipping, cutting, or caulking metal.
- Breaking or cutting concrete, stone, or asphalt.
- Striking, or striking with, hardened tools and fastenings.
- Cutting rivets, bolts, or cotter keys, splitting nuts, and so forth.

- Driving, bucking, sticking, or heating rivets.
- Scaling, scraping, or removing welding flux.
- Using power-activated impact tools.
- Using tools powered by explosive charges.
- Machining steel, cast iron, brass, or bronze.
- Boring, drilling, or reaming.
- Operating woodworking machines.
- Operating adzing machines.
- Operating power rail saws, grinders, or drills.
- Using or dressing grinding wheels.
- Hammering testing tanks.
- Blowing or cleaning with compressed air or steam.
- Sandblasting.
- Spraying paint or cleaning agents.
- Pouring or handling molten metal.
- Handling acids or other chemical solutions, and servicing or charging refrigeration equipment.
- Handling or servicing storage batteries.
- Tending open furnaces and boiler fires.
- Electric or gas welding or cutting.
- Using tools to break frozen ground, grave cinders, ballast, and so forth.
- Working in areas where heavy dust conditions exist.

- Performing any other work which the supervisor determines is hazardous to the eyes and performing duties in areas where mandatory eyewear programs are in effect.

When safety equipment such as, but not limited to, hard hats, protective clothing, gloves, guards, masks, respirators, or eye and hearing protection are required in specified areas for certain job functions, such safety equipment must be used by all persons affected. Personnel are responsible for keeping all protective equipment issued to them in good order and properly fitted. They must replace it as required to maintain intended protection. Hard hat shells can be seriously weakened by the application of brush or spray type paints, or other materials including insect repellents which contain solvents or hydrocarbons. Therefore, such materials must not be used on hard hats. Drilling or cutting holes in hard hat shells is prohibited. Face shields shall not be used alone as a substitute for goggles and spectacles should not be used for eye protection.

Rule 801(C). On or About Tracks. Personnel on or about tracks must always be alert to keep out of danger and use care to avoid injury to themselves and others. Nothing in these rules should be interpreted as relieving any person from performing his full duty in this respect. Expect movement of equipment on any track, at any time, in either direction. Always look in both directions before crossing or getting close to any track. Crossing tracks immediately in front of moving trains, locomotives, or cars is prohibited. When crossing tracks near standing equipment, always allow

enough room to avoid injury in case of sudden or unexpected movement.

Personnel on or about any tracks, whether in the open, in shops, on bridges, or in tunnels, must move to a place of safety upon the approach of rolling equipment on the track where they are working or on an adjacent track. Personnel must always position themselves at a safe distance from moving equipment, and be alert for falling or protruding equipment. All machines being operated close enough to any track to be struck by rolling equipment must be moved to a place of safety upon the approach of a train or other moving equipment, and must remain in the clear until the moving equipment has passed.

When not in use, on-track equipment and machines must be secured to prevent fouling of adjacent tracks. Such equipment must be secured clear of all tracks when it is placed along right-of-way. In addition to these safety rules, supervisors must provide necessary protection for their personnel according to operating rules.

Personnel are prohibited from being on rails, ties, or any other part of track structure, except when performing duties, or when going to or from work. In this case, they must be sufficiently protected to ensure their safety. Stepping or walking on rail, derail, frog, switch, interlocking equipment, retarder, loose wheel detectors, or defective equipment detectors is prohibited. Keep hands and feet clear of power switches, derails, and retarders. Obtain permission from the person controlling such equipment and take necessary

precautions to prevent undesired movement before performing any work on them.

Personnel should observe moving trains for dangerous conditions such as overheated journals or shifted lading. If the train crew cannot be alerted by radio or stop signals, the train dispatcher should be notified immediately. Sitting on footboards or steps of locomotives, or leaning against standing locomotives, cars, or other equipment subject to unexpected movement is prohibited. Care must be used in opening or closing car doors to avoid catching hands in door facings or latches, or being injured by unexpected movement or displacement of doors.

Rule 801(D). Track Cars and Work Equipment. When starting motors which must be cranked by hand, lift on the crank with fingers and thumb on same side of the handle and keep body as far away as possible, clear of crank movement. When starting self-propelled equipment by pushing, push from the rear when possible. If necessary to push from the side, personnel must use care to keep feet away from wheels. Such equipment must not be pulled by hand.

Personnel must not ride on cars being towed unless cars are equipped with hand brakes, handholds, and sill steps. Personnel riding on a motor car or trailer must be seated while the car is in motion and must not obstruct the operator's view. All occupants must keep a vigilant lookout in both directions. Personnel must not sit with their feet between cars that are coupled together, nor use their feet against rails, ties, and so forth, to stop cars. Personnel must not ride on footboards of locomotive cranes. Personnel must not get

on or off motor cars while they are in motion, except when necessary to start cars or to assist cars on a grade. This rule does not apply to hump motor cars when picking up and letting personnel off; however, when this is done, the speed must not exceed 4 mph.

Motor cars, trucks, and trailers must not be overloaded. Tools, materials, supplies, and so forth, must be secured so they will not injure personnel, fall off, or prevent the operation of required warning devices. Trailers, motor cars, burro cranes, or other units of on-track work equipment shall not be coupled together except by standard equipment couplings. Trailers shall be pulled rather than pushed when possible. Operators and occupants of motor cars must watch for obstructions on rails or in flangeways of frogs, switches, and crossings.

When shipping a track motor car or other gasoline-operated machine by train or truck service, the gasoline tank and carburetor must be drained. All torpedoes, fusees, and other combustible materials must be removed before shipment is made.

When reversing the movement of maintenance-of-way self-propelled equipment, the operator must know that all personnel are in the clear. He will blow three short blasts on the horn before reversing the movement. If the horn is inoperative, or the machine is not equipped with a horn, the operator must not move the machine until he knows that all personnel are in the clear before reversing direction of movement. When personnel must work closer than 10 feet from the rear of such a machine, the operator must be notified.

Rule 801(E). Getting On or Off Equipment. Getting on or off moving equipment is prohibited, except when performing duties. Personnel must not get on or off, nor ride the side of a moving flatcar unless the car is equipped with vertical grab irons. Personnel must not get on or off moving locomotives or cars when the speed is not safe for mounting or dismounting. When getting on or off equipment, personnel must face the equipment and have secure handhold and footing. They must watch for equipment on adjacent tracks, close clearances, obstructions, irregularities, or openings on the ground. Personnel should get on or off on the side away from the main track or close clearance when conditions permit.

Personnel must not get on or off equipment while it is being coupled. Getting on or off equipment while carrying anything that will prevent a secure handhold or otherwise interfere with safe movement is prohibited. Personnel must get on or off the trailing end of rear cars if possible. When getting on or off any car other than the rear car, use the leading end of the car to be mounted or dismounted, when possible. Personnel must not stand in front of approaching equipment to board it. When getting on or off equipment, grab irons and steps must be used. Jumping off end sills or swinging up or down between two cars or other equipment with a hand on each one is prohibited. Before attempting to board equipment with bad order shop card attached, personnel will determine why it was shopped and avoid using any defective parts.

Rule 801(F). On Locomotives and Cars. When on cabooses, cars, or locomotives, personnel must use care

to avoid injury from slack action or from sudden starts or stops. In cabooses or locomotives, they must remain seated when duties permit, and wear seat belts when provided. Personnel will not ride footboards of an engine.

Train and engine service personnel must not occupy the roof of a car or caboose under any circumstances. Train and engine service personnel and other personnel whose duties require them to occupy the roof of an engine, car, or caboose may do so only while equipment is standing.

Personnel must not position any part of the body between the sides or ends of cars and loaded rail, lumber, pipe, or other lading which is likely to shift. Standing on or placing any part of the body on top of such material is prohibited, except when absolutely necessary by personnel engaged in loading or unloading operations. Sitting on running boards of tank cars, platforms or steps of cabooses and locomotives, sides of cars, or in doorways is prohibited. Riding on cars, or steps and platforms of locomotives or cabooses without a secure hold is prohibited. Standing on top of any car near the end or sides, except when necessary while the car is undergoing repairs, is prohibited.

Do not ride between cars and locomotives unless it is positively necessary in the performance of duty. Where multi-level auto rack cars loaded with automobiles that extend beyond the end sill are being moved coupled to another car, employees are prohibited from occupying any position between the coupled cars.

Walking, standing, or sitting on the sides or ends of open-top cars is prohibited. Extreme care must be used in walking over open-top loaded equipment. Do not sit, stand, or step on hand rails, uncoupling rods or levers, couplers, brake wheels, trucks, or the movable portion of center sills.

Riding on or within the swing of raised end gate of drop-end gondola cars is prohibited. Before climbing over end gate, personnel must be sure it is securely latched. Keep hands out of openings between end gates and top angle or corner post. When a car more than 60 feet long is moving through a turnout, crossover, or close clearance, employees must not ride on that side which is next to the close clearance or any equipment on an adjacent track.

When opening, closing, or moving through locomotive or caboose doors, employees must maintain a firm hold on the knob or handle and keep hands off door edges and facings. Ascending or descending end ladders between or on leading end of moving equipment is prohibited. Use side ladders for this purpose. Jumping from one piece of equipment to another on the same or adjacent track is prohibited. While on moving equipment, personnel must maintain a lookout in the direction of movement for obstructions or close clearances along side of track. Personnel must not lean out or be on the side of equipment while passing such points.

Personnel are prohibited from going under air dump cars except when such cars are secured against dumping by chains, blocking, or other means. If necessary for personnel to stand inside dump cars, they must

stand at least two feet away from the dump car doors. They must not stand in dump cars while they are being loaded.

When unloading ballast or other material from hopper cars, or when cleaning or doing other work which makes it necessary for the car doors to be opened, ensure that all personnel understand what is to be done before latches are released and doors are opened. When entering such cars located over pits or on trestles or fills, personnel must use a safety belt, rope, or lanyard to prevent falling through hoppers. When unloading material of any kind where it is necessary to bump or jar the cars to dislodge the material, all personnel must be off the cars and in the clear before the cars are bumped. Occupation of ballast or hopper cars while such cars are being moved to unload ballast is prohibited.

Enginerooms, cabs, walkways, steps, grab irons, and other safety appliances must not be obstructed by material, supplies, or tools. They must be kept free from oil, grease, dirt, rags, and so forth.

Rule 801(G). Operating Hand Brakes. When operating hand brakes, take proper position on or off equipment as required by the type of brake to be operated. Have secure footing and handhold to prevent slipping, falling, strain, sprain, or injury from coupling impacts. Obtain help when brakes have been set to require excessive force to release them. Personnel are prohibited from placing their feet in the wheels of hand brakes.

Never use a brake club on a vertical wheel hand brake. Stress on horizontal brake wheel, with or

without club, shall be toward the car rather than away from it when equipment permits. Use of nonstandard brake clubs or dangerously worn standard brake clubs is prohibited.

Operate vertical wheel type brakes with one hand, applying stress by pulling upward while maintaining secure hold with the other hand. When releasing a hand brake equipped with a lever controlled release, keep all parts of body clear of moving parts. Where the use of hand brakes will be required, they must be tested before the cars are cut off or dropped by gravity. Personnel must not apply or release hand brakes on any rolling equipment being moved by a locomotive until such time as the movement comes to a stop, except when a standing test of the hand brake is not conclusive.

Rule 801(H). Operating Switches and Derails. When operating switches and derails, take the following precautions:

- Look for moving equipment on adjacent tracks and keep clear of it.
- See that no other personnel are in position to be injured.
- Ensure that no obstructions will interfere with proper operation.
- Obtain help for switches requiring excessive force to operate.
- Take position facing the switch or derail squarely. Avoid a twisted or awkward position.

- Ensure that switch locks and switch point locks, if any, are removed.
- Keep clear of any movement of switch parts while releasing latches.
- While lifting lever, use leg muscles, and keep back straight to avoid strain.
- Keep feet and hands clear of descending lever or ball.
- When operating a high switch stand, pull the lever toward you instead of pushing it away from you.
- Never lift or kick a switch lever with your feet.
- Ensure the switch points or derails have moved to proper position and are secured with switch latch or switch lock before movement is made.

On-track derails and switch point derails must be kept in the derailing position when not in use.

Rule 801(I). Coupling or Uncoupling Equipment. The practice of dropping cars by or making "flying switches" is prohibited unless no other means of getting around cars are available. Going between or in front of moving engines or cars to couple and uncouple adjust couplers, knuckles, or lock pins; or to manipulate angle cocks is prohibited. Kicking, or other use of feet to adjust couplers, knuckles, or lock pins is prohibited.

Before going between standing engines or cars to couple, uncouple, or make adjustments, observe the following guidelines:

- Have a clear understanding with all persons involved to protect against any movement of the equipment.
- Wait until slack has adjusted, paying particular attention to cushion underframe cars.
- Ensure cars are secured if they are on a grade.

While equipment is standing, see that coupling appliances, including knuckle pins, are in place and in good order, and make any necessary adjustments to ensure proper coupling. Always stand to the side rather than directly in front of equipment when adjusting knuckles or couplers. If equipment is defective, it must be reported to responsible officer. Giving signal to move while a person is between cars, locomotives, or between locomotives and cars is prohibited.

Before opening an angle cock on an uncoupled air hose, either hold the air hose or take other precautions to prevent injury from hose movement. Separating air hose by hand before angle cocks are closed is prohibited. Air hose couplings must not be struck or adjusted in any manner to stop air leaks until the angle cocks are closed on both sides of the coupling. Use uncoupling lever to uncouple. If the lever is inoperative, stop the movement, cross over, and use the uncoupling lever on other car. When cutting off equipment with the air hose coupled, keep clear of hoses and flying debris.

Before uncoupling a steam connection, be sure the valves on both sides of the joint are closed and pressure is relieved. Use caution to avoid being burned by steam, hot water, hot pipes, and fittings when handling steam connectors. Personnel must place and secure vestibule gates or bars before separating occupied passenger, baggage, mail, or express cars.

Rule 801(J). Operating Locomotives. The moving of locomotives by unauthorized personnel is prohibited. Personnel must not pass from one unit of a locomotive to another while locomotives are moving except when it is necessary in the proper performance of duty. When necessary to pass between moving units, safety chains and platforms must be properly positioned and train speed must be below 30 mph. Secure handholds must be maintained at all times.

Do not open manual blow-down valves on steam generators or drain cocks while crossing streets or sidewalks, passing station platforms, crossing bridges, or at other points where persons may be injured.

Do not pick up train orders or other materials from open doors of moving locomotives. Keep doors leading from the locomotive cab to the engineroom closed at all times. Provide adequate protection before removing steps from the cab to engineroom or opening the hatch cover in the cab floor. Keep locomotive side and end doors closed when the locomotive is in service.

All safety appliances, guards, equipment covers, and ceiling hatch covers must be in place and securely fastened while the locomotive is in service. Personnel must not allow their hands or other parts of their

bodies or clothing to come in contact with fans, radiator shutters, or automatic equipment. Do not place face or hands near the main generator or any high-voltage equipment while under load. Do not let locomotives stand over burning fusees, switch heaters, or other open flame. In case of fire, shut off fuel oil supply to diesel engine by operating the "Emergency Fuel Cut- Off" device, and opening the main battery switch.

Personnel are prohibited from restricting or interfering with the normal intended function of any device or equipment on locomotives as stated in Rule 611. Personnel must isolate or remove the diesel engine from the line before opening doors of high-voltage electrical cabinets. Personnel must isolate or remove the diesel engine from the line before testing or replacing fusees. If circuit breakers, other than those for lighting, are found tripped while the locomotive is in operation, the unit must be isolated or removed from the line before tripped breakers are reset.

Caution must be used to avoid striking personnel when moving locomotives about shop premises or service facilities. The bell must be ringing before moving and while passing locations where personnel may be working. Ensure that no personnel are in a position to be injured before coupling to or moving a locomotive. Before movement occurs, ensure that hoses, pipes, cables, or anything which may be connected to or leaning against locomotives are put in a safe place. Before leaving locomotives unattended, personnel must ensure that controls are positioned according to instructions, and that the locomotives are secured to prevent their movement.

SPECIAL RULES FOR DUTY PERSONNEL

This chapter contains rules relating to the performance of specific job functions. They give instruction to train dispatchers, agents, operators, yardmasters, engineers, conductors, trainmen, firemen, and drivers.

TRAIN DISPATCHERS

Rule 901. Train dispatchers report to the chief train dispatcher.

Rule 902. Train dispatchers are in charge of the movement of trains and have supervision over employees connected with those trains.

Rule 903. Dispatchers will issue and record train orders over the signature of the superintendent and according to the rules. They must issue any other instructions that may be required for the safe and efficient movement of trains.

Rule 904. They must be familiar with the physical characteristics of the territory in their charge. They must also be familiar with all general orders, bulletin orders, division notices, and other instructions relating to the movement of trains which are in effect on their territory.

Rule 905. They must maintain an accurate, legible record of the movement of trains and track cars. They must record the complete details of all important information relating to the movement or delay of trains.

Rule 906. They must report immediately to the chief train dispatcher any violation of the rules and any irregularity relating to the movement of trains.

Rule 907. They must stay informed of severe weather and other unusual conditions, and promptly notify the chief train dispatcher if such conditions will affect the movement of trains.

Rule 908. They must apply blocking devices as prescribed by the rules. The time the devices were applied and removed must be recorded in red ink on the Dispatcher's Record of Train Movement. When necessary to temporarily nullify protection given by blocking devices to permit a movement over a nonrestricted route, the devices must be immediately restored to a restricted position after movement has been made.

Rule 909. They must require responsible personnel to promptly report the departure, passing, and arrival of trains. In the event of accidents or the existence of hazardous conditions, immediate action must be taken for the protection of trains.

Rule 910. Immediately before being relieved of duty, they must enter in ink in their train order book, over their signature, a list of all outstanding and unfulfilled

train orders, track car authorities, the number of the last general order, bulletin order and division notice, and any other information relating to train movements. They must be sure that all orders and instructions are understood by the relieving train dispatcher, who must sign the transfer in the presence of the train dispatcher being relieved.

AGENTS AND OPERATORS

Rule 911. Operators, train directors, their assistants, and levermen report to the chief train dispatcher or supervisor of operating rules.

Rule 912. They must be qualified at that particular block or interlocking station before accepting an assignment for duty.

Rule 913. They are responsible for the delivery of train orders and messages, the use of blocks, tracks, interlocking switches and signals, and for the prompt movement of trains according to the rules. They ensure that general orders, bulletin orders, and division notices are posted in the proper location.

Rule 914. They must obey the instructions of the train dispatcher and advise him immediately of any condition which may affect normal operation or safety of train movements. They must report the weather as required, and promptly advise the train dispatcher in case of sudden change, high water, storm, or fog.

Rule 915. Operators must promptly record and report to the train dispatcher the direction, time of arrival, time of departure, and the engine number of all trains.

They must keep an accurate and legible station record of train and track car movements, and record any pertinent information affecting the movement of trains.

Rule 916. They must observe passing trains and also report the improper display of markers. When their duties permit, they must be outside to observe passing trains. They must respond promptly when called by radio or telephone, and communicate clearly and properly in compliance with the rules.

When required, they will operate hand-operated switches, crossing gates, movable bridges, and other devices as designated. In electrical territory, they will operate power control boards and other devices as directed by the power directors.

Rule 917. They must apply blocking devices as prescribed by the rules, and record the time they were applied and removed in red ink on the operator's station record of train movements (see FM 55-20 for an example of DA Form 4093-R, Station Record of Train Movements and Operator's Transfer). When necessary to temporarily nullify protection given by blocking devices to permit a movement over a nonrestricted route, the devices must be immediately restored to restricted position after the movement has been made.

Rule 918. They must not leave their duty until they are relieved and they must notify the train dispatcher promptly should their relief fail to report at the prescribed time. Displaying unauthorized publications, using unauthorized appliances, and placing nonessential items on interlocking or instrument cases is prohibited.

Rule 919. They must not permit unauthorized persons inside their office. Operators must not leave their offices without permission of the train dispatcher.

Rule 920. Immediately before being relieved of duty, operators must make an ink written transfer on the station record of train movements over their signature, a list of all outstanding and unfulfilled train orders, track car authorities, and any other information relating to train movements. They must make sure that all orders and instructions are understood by the relieving operator, who must sign the transfer in the presence of the operator being relieved.

YARDMASTERS

Rule 921. Yardmasters report to the terminal superintendent or trainmaster.

Rule 922. Yardmasters, within their assigned territory, are in charge of the movement of trains and engines, the handling of cars, yard personnel, and the train and engine crews within the yard.

Rule 923. They are responsible for the prompt movement and careful handling of cars. They must require crews to be called at the correct time, and they are responsible for the proper makeup and prompt dispatcher of trains. They must advise yard clerks to ensure that car movements are reported properly.

Rule 924. They must observe regulations governing hours of service and hazardous materials, and must notify conductors of any cars placed in their train

which contain explosives or flammables. They must ensure that train conductors are given waybills for all cars, and any instructions relating to the movement of restricted cars. They are responsible for the prompt placement of bad order cars for repair, and for the expeditious handling of such cars after repairs have been completed.

ENGINEERS

Rule 925. Engineers report to the conductor.

Rule 926. They must obey the instructions of road foremen, trainmasters, train dispatchers, yardmasters, and operators within their jurisdictions. They must also follow the instructions of the conductor in charge of their train, unless by so doing they would endanger its safety or commit a violation of the rules.

Rule 927. Engineers are responsible for the observations of and compliance with the indications of all fixed signals, and all other signals affecting movements of their engine. When the engine is moving, they must be vigilant and use care to prevent avoidable injuries, collisions, derailments, and damage to lading and property. If anything distracts their attention from constant lookout ahead, or if weather or other conditions make observation of signals or warnings in any way doubtful, they must at once regulate the speed of their train to make progress entirely safe.

Engineers must check the accuracy of the engine speed indicator by using their watch, mile posts, and

timetable speed table. This must be done as soon as possible after starting each trip. If the indicator is inaccurate or inoperative, the engineer and other members of the crew must make sufficient checks while en route to ensure that authorized speed is not exceeded. An indicator error in excess of 4 mph must be reported as soon as possible to the train dispatcher. Details of the error are outlined on the engineers' work report form.

Rule 928. While acting as pilot, they will operate the engine unless otherwise instructed. When there is no conductor, or if the conductor is disabled, they must perform the duties of the conductor.

Rule 929. The engineers are responsible for the safety and conduct of other employees on the engine. They must be familiar with their duties and issue instructions when necessary. They must not allow the fireman or student engineer to operate the engine except when this can be safely done under their personal supervision. They are responsible for the proper operation of the engine and must not leave it while on duty unless absolutely necessary. If they leave the engine it must be secured.

Rule 930. They must be qualified on the type of engine to which they are assigned. They will be governed by current mechanical, electrical, and air brake instructions on the safety, inspection, preparation, and operation of trains and engines.

Rule 931. At points where mechanical forces are employed and on duty, they will accept the inspection

of the engine by the mechanical forces. Where required, engineers must perform the air brake test on their engine.

Rule 932. At points where no mechanical forces are on duty, engineers will check the prescribed form in the cab to be sure that all engine units have been inspected within one calendar day. If the units are not within date, they must make inspection, and record the date, time, and location on the prescribed form in the cab.

Rule 933. During freezing weather, and danger of freeze damage, they must drain the engine cooling system, cab heater, flush toilet, water cooler, and water cooled air compressor of any unit under their charge that will not restart. All such instruments are drained according to instructions posted in the cab or unit operating manual. The automatic cooling system drain device must not be relied on to drain the unit and accessories. The train dispatcher must be notified as soon as possible when an engine is shut down and cannot be restarted.

Rule 934. At the completion of each trip, they must prepare and sign a work report on the prescribed form.

CONDUCTORS

Rule 935. Conductors report to the trainmaster.

Rule 936. They must obey the instructions of trainmasters, road foremen, train dispatchers, yardmasters, and operators within their jurisdictions. They also must obey instructions from officers of other departments on matters pertaining to those departments.

Rule 937. Conductors have charge of the trains to which they are assigned, and all persons employed aboard are subject to their instructions. They are responsible for the prompt movement, safety, and care of their trains, and for the vigilance and conduct of personnel. They must ensure that train personnel properly perform their duties, and they must observe and enforce all rules and instructions.

Rule 938. Conductors of freight trains must not permit any person, except railroad officers and trainmen in discharge of their duties, to enter cars, handle freight, or ride upon the train without the permission of the proper authority. They must make sure that members of their crew who are required to provide protection as outlined in Rule 99 are familiar with their duties. They must also be sure that their train has been inspected and is properly equipped, that air brake rules have been complied with, and that prescribed signals are displayed.

Empty cars must be distributed as billed or as directed by a division officer. When required, conductors will examine, record, and report the identifying numbers and condition of seals on cars in their train, or on cars which they deliver or receive.

Rule 939. Conductors must be familiar with the location of the emergency brake valve, hand brakes, and communicating signal appliances.

Rule 940. Conductors must, when necessary, instruct members of their crew about the proper performance of their duties.

Rule 941. When a train or engine is standing, the conductor must arrange to have both sides of passing trains inspected when possible.

Rule 942. Conductors must exert proper effort to start and move trains or engines on time. They must not permit delay for avoidable causes without permission.

TRAINMEN

Rule 944. Trainmen report to the conductor or other designated officer.

Rule 945. They must obey the instructions of officers, their conductor, the engineer, and officers of other departments on matters pertaining to those departments.

Rule 946. They are responsible for the display of train signals, the proper protection of trains, the handling of switches, the coupling and uncoupling of cars and engines, and manipulating brakes. They must assist the conductor or engineer in all duties necessary for the prompt and safe movement of their train.

Rule 947. The proper place for the forward trainman on a freight train while the train is in motion is in the controlling cab of the engine, or at the leading end of the leading unit when it is being controlled from another cab.

Rule 948. They must familiarize themselves with the location and proper use of the emergency brake valve and communicating signal appliances.

Rule 949. Trainmen are responsible for connecting the air hoses on their train or cuts of cars to be picked up by their train.

FIREMEN

Rule 950. Firemen report to the engineer or other designated officer.

Rule 951. They must obey the instructions of division officers, and their conductor and engineer.

Rule 952. They must assist the engineer in all things necessary to ensure safe and prompt movement of their train or engine.

Rule 953. In passenger service at initial terminals, firemen must start steam generators and be prepared to furnish steam to the train when called for. At final terminals, firemen must shut down steam generators unless otherwise instructed by the proper authority.

Rule 954. Steam generators on diesel units must not be blown down in the vicinity of passenger stations or at other locations where it would be hazardous or cause personal injury.

AUTO-RAILER AND TRACK CAR DRIVERS

Rule 955. Track car drivers must obey the instructions of train dispatchers, yardmasters, and operators within their jurisdictions, and of others with proper authority.

Rule 956. They are responsible for the movement, safety, and care of the track car in their charge according to the rules, special instructions, and track car authorities.

PERSONNEL PERFORMING TRAILER, CONTAINER, AND MULTI-LEVEL OPERATIONS

Personnel who perform trailer, container, and multi-level operations should be familiar with procedures to be followed when engaged in these operations.

Flatcars and multi-level cars must be secured to prevent movement before trailers, containers, or vehicles are loaded or unloaded. All bridge plates must be checked to ensure that they are in proper position and secured before any moving, loading, or unloading operations begin.

Personnel must keep clear of trailers when tractors are coupling to them. Before coupling tractor to trailer, apply air to trailer and activate brakes or block wheels adequately to prevent backward movement of trailer. Trailer brakes must be operative at all times during loading and unloading operations over ramps.

When trailers are being loaded, the tractor operator must not back the rear of his trailer any closer than one car length from the front of the trailer behind him until he receives a signal from a member of the loading crew to do so. When work must be done on the leading trailer, there must be a clear understanding among all personnel, including the driver, of the exact moves to be made.

When trailers are being unloaded, tractor must not couple to trailer until the releasing crew is at least two trailers behind the trailer to which coupling is to be made. If the releasing crew is not three units behind the tractor, coupling must not be made until the driver

has received a signal from the person operating the wrench, from a position clear of the rear of the vehicle. That signal must not be given until it is known that all personnel are in a safe position.

Tractor and automobile drivers must operate at safe speeds when loading, unloading, or moving around ramp areas. Landing gear must be carefully inspected before the loading or unloading operation to make sure it will support the trailer weight. Trailer king pins should be hammer tested immediately before coupling tractor. When using a power wrench, keep head and body clear of the handle. Do not leave the wrench hanging in hitch while other adjustments are being made. While hitches are being raised or lowered, keep hands, feet, and other parts of body in the clear. Before lifting trailer or container with overhead or side loading equipment, ensure that lifting devices are locked in the proper position.

When trailers, containers, or other vehicles are loaded on piggyback or multi-level cars, all hitches and tie-down attachments must be inspected to ensure that they are in place and properly secured before the cars are moved.

MAINTENANCE-OF-WAY PERSONNEL

This chapter deals with the duties of maintenance-of-way personnel, with regard to protection, tracks and right-of-way, and tools, appliances, and machines used in the performance of those duties.

GENERAL

Watchmen

Personnel working on or about tracks must be protected by a watchman or by appropriate signals. The watchman must be stationed where he can see approaching locomotives or cars and be able to warn personnel with a whistle, or some other means in time to allow them to get clear.

Train Clearance

Upon the approach of a locomotive or train, maintenance-of-way personnel must move to a place of safety clear of all main tracks. Personnel must ensure that all tools and materials are removed or placed so that they will not interfere with the passage of trains. Personnel will observe passing trains for hotboxes or other mechanical defects, signaling the crew as appropriate.

Flag Protection

Performing work that will obstruct tracks or affect the movement of trains, without the proper flag protection, is prohibited. Competent flagmen or watchmen equipped with torpedoes and proper signal materials (flags by day and fusees or lanterns by night) will be sent a sufficient distance to ensure full protection. They will place two torpedoes and, if conditions of visibility require, display lighted fusees. When necessary, because of curves or weather conditions, two flagmen will be sent out. The second flagman will be stationed between the first flagman and the point to be protected. Torpedoes will not be placed near stations or public crossings or where they may injure persons.

Fires

Maintenance-of-way personnel must be alert for fires that may occur along the right-of-way. They must remove combustible materials from the vicinity of tracks, bridges, and buildings. Water barrels on bridges, trestles, and station platforms must be kept filled, and defective barrels will be replaced. Personnel must observe telephone and telegraph lines to see that poles and lines are in the proper position, particularly after serious storms. Fire coals or ashes seen falling from passing locomotives will be promptly reported to dispatchers, giving location, number and direction of movement of locomotive, and time seen.

Camp Cars

Personnel are prohibited from entering or leaving camp or material cars that are standing adjacent to

main tracks, except through the side or end opposite the main track.

TRACKS AND RIGHT-OF-WAY

Track Clearances

The space between and beside yard tracks and switches must be kept clear of tools and materials if possible. Materials piled for use on line of road must be kept a safe distance from tracks. Guards will be posted when required. Any holes which have been dug near tracks must be filled as soon as possible. Until they are filled they must be covered or otherwise protected to prevent injury.

Track jacks must be placed on the outside of rails when possible. When necessary to use jacks to raise rails, flag protection will be provided. Storing tools or material in tunnels is prohibited. Details working in or near the mouth of a tunnel will stand clear of all tracks when a train approaches. Personnel who are not able to leave the tunnel will occupy manholes. If possible, tunnels should be lighted if work is to be performed in them.

Material and Tool Handling

Use gloves when handling creosoted ties and timber and climbing creosoted poles. Exposed skin should be covered with salve or clean grease when working among creosoted materials.

TOOLS, APPLIANCES, AND MACHINES

When handling tools, appliances, and machines, personnel must comply with the following rules:

- Do not use machines or tools for purposes other than those for which they are designated.
- Do not strike hardened bolts, pins, bushings, tempered tools, or any other hardened objects with hard hammers, or other hardened materials.
- Do not use spike mauls to strike chisels, rock drills, backing out tools, lining pins, other spike mauls, and so forth. Use approved hammers for such purposes.
- Do not spike over a rail, except when track structure makes it necessary. Two people must not drive the same spike at the same time.
- Do not drive claw bars under spike heads with spike mauls. Use sledge hammers for this purpose.
- Do not use lining bars or claw bars to turn rail. Use rail forks or other approved tools for this purpose.
- Do not leave shovels, forks, rakes, hoes, or other pointed or sharp-edged tools lying with points or edges up.
- Do not leave tools or material standing or leaning against walls, locomotives, cars, or anywhere they may fall or be knocked down.

- Use proper equipment or material to align holes when inserting rivets, bolts, knuckle pins, and so forth. Personnel must not use fingers to align holes.
- When assisting in the use of chisel bars, punches, rods, or other such equipment, the person holding the tools should stand on the opposite side from the person using the hammer whenever possible.
- Do not use a file as a wedge or pry bar, strike a file with or against metal, or use a file without a handle.
- Use a wrench that fits properly. Pipe wrenches should be used on pipe or rounded materials only. Where possible, apply force by pulling. If wrench must be pushed, do so with open palm. Never apply improvised extensions to handles of wrenches or other tools to increase leverage.
- Use brooms, bagging, or similar protection when cutting off bolts, nuts, or rivets, and when backing out bolts or rivets. Use canvas or other screens when chipping or cutting to prevent injury from flying fragments.
- Never press a screwdriver into a small object held in the hand. Use a vise or other means to hold such materials.
- Never sit on, stand on, or straddle a bar or lever when using it.
- When moving a car by hand, have the handle of the car mover slightly out of line with the rail to avoid catching fingers.

- Ensure that jacks have secure and adequate footing. Except when using jacks in track repair operations, a block of wood or other approved cushioning material must be inserted between the head of the jack and the metal parts being jacked. Use proper jack handles, and remove handles when jacks are not being operated.
- Ensure that all personnel, tools, and materials are in the clear before tripping or otherwise lowering a jack under load.
- Place track jacks on outside of rail when possible.

MAINTENANCE-OF-EQUIPMENT PERSONNEL

Maintenance of equipment is essential for the safe and efficient operation of DA railways. The following information covers aspects of maintenance with regard to safety; welding and cutting; cranes, hoists, and derricks; and ladders and scaffolds.

SAFETY

Clothing and Shoes

Personnel must wear suitable clothing and shoes to safely perform their duties. Safety shoes will be worn where conditions and duties present hazards to the feet. Wearing thin-soled shoes or loose, torn, oily, greasy, or baggy clothing is prohibited.

Tools and Machines

All tools and machines used must be kept in a safe and suitable condition. Personnel are prohibited from using appliances, machines, or tools until properly instructed as to their operation and care. The proper tool must be used for each job, such as a wrench that fits properly. Chisels with mushroomed heads must not be used.

Repair Tracks

Where work is being performed on shop or repair tracks, switches and derails to such tracks will be kept locked. Men working on such tracks will be notified before any switching or movement of cars or locomotives is performed.

Personnel are forbidden to go under or between cars and locomotives on other than assigned repair tracks until they personally know that a blue signal is posted at both ends if necessary. If no blue signals are available, other protection must be provided. Stepping or jumping over drop, fueling, or inspection pits, is prohibited.

Shop Precautions

Personnel must use steps to enter and leave pits where steps are provided. Leaving manholes and valve boxes open without posting or placing suitable guards is prohibited. Covers must be properly seated when replaced.

Using hands to brush chips from drills, lathes, or other moving tools or machines is prohibited. Leaving tools, materials, or rubbish in aisles or passageways is prohibited. When cutting off bolts, rivets, or chipping, and so forth, shields must be placed in positions to prevent injury to personnel from flying parts.

Handtools

In using handtools, personnel must comply with the following rules:

- Do not use files as pry bars, files without handles, and do not strike files with hammers.

- Do not leave tools or materials on any elevation where they might fall or be jarred off, causing hazards to persons working or passing in the area.

- Do not leave tools or materials standing on end or leaning against walls or other objects where they might be struck by swinging sledges.

- Do not stand beside personnel using a sledge.

- Do not stand in front of or within the swing of hammers, sledges, adzes, bars, other similar tools or implements.

- Use protective goggles when chipping metal.

- Wear goggles in good condition to protect against splinters, and sharp or jagged edges when handling ties, lumber, rough freight, or materials.

- Remove all nails, staples, wire, and so forth protruding from kegs, packing boxes, or other containers, immediately after they have been opened.

Operating or working near a machine or appliance without safety guards in proper position is prohibited. Repairing, cleaning, oiling, or adjusting machinery while it is running is prohibited when personnel are subject to being struck or caught by moving parts. The machinery must be stopped and the controls must be properly tagged or otherwise protected before performing such work. Warn other personnel and see that they are in the clear before starting motors, or other machinery.

Avoid reaching between, going between, touching moving belts and cables, or shifting them by hand. Personnel operating woodworking machines must not

pass hands between rip saw and guide when ripping small material, or over jointer blades while dressing materials less than 1-inch thick or 4-inches wide. Remove loose or scrap material from power saw table immediately after cutting.

Before any material is drilled on a drill press, it must be properly fastened by means of a vise, clamp, or chuck to prevent it from turning. Hands, tongs, wrenches, or other tools must not be used to hold such material. Remove chips, cuttings, or scale from machine tables or moving tools with brushes or other devices. All set screws or keys in revolving spindles or shafts must be flush or countersunk.

Do not operate grinding wheels at speeds in excess of those recommended by the manufacturer. All grinding wheels must be of a type and size approved for the machine on which they are to be used and must be applied according to manufacturer's instructions. Grinding on sides of abrasive wheels not designed for that purpose is prohibited. A tool rest shall not be more than 1/8 inch from the wheel. Never attempt to adjust the tool rest while the wheel is in motion.

Keep grinding wheels clean and true by frequent dressing. If a wheel vibrates after dressing, stop the machine and check for other defects. Apply the work gradually to a cold grinding wheel, in order for it to warm up. Always apply the work smoothly and avoid forcing the work to the extent that glazing or breakage may occur. Use air-operated grinding tools which are equipped with a speed governor in good working order. Repairs or adjustments to speed governors must be made only by authorized personnel. Place short

material on power hammer anvil or die with tongs instead of hands. When power hammers are not in use, the striker must be left resting on the anvil and the power must be shut off.

Do not point pneumatic or other power actuated tools at a person. Before connecting or disconnecting pneumatic tools, close valves at supply lines and relieve all pressure from hoses. Laying down a pneumatic, electric, or other tool while the motor is running is prohibited. Place such tools where they will not be accidentally started. When a reaming or drilling tool which is operated by a portable pneumatic motor becomes fouled in the hole to the extent that it is necessary to strike the tool with an object to free it, the motor must be removed from the tool before it is struck. Personnel working on the opposite side of the rail from a power track wrench must not place themselves in direct line with the bolt being tightened. Electrical tools, both portable and stationary, must be equipped with ground wire before using unless the equipment is double insulated.

WELDING AND CUTTING

The following conditions apply to all personnel when engaged in welding and cutting. Only qualified personnel will be permitted to perform welding or cutting operations. Personnel performing welding or cutting work must use prescribed eye protection and must wear clothing and shoes that will give protection against sparks and molten metal. Ear screens or other ear protection must be used when welding or cutting overhead. Suitable screening devices must be used to

protect the eyes of other personnel working in vicinity of welding operations.

Inspect cutting and welding equipment carefully before beginning each job. Be sure that all parts of the equipment are in good condition, that there are no leaks in gas welding equipment, and that all electric welding equipment is properly insulated. Welding material must be kept in an orderly condition. Flammable material and debris must be removed from the vicinity before welding or cutting is begun. Fire extinguishers should be kept readily available at all times during welding or cutting operations.

Be sure that all oxygen and flammable gas equipment and connections are clean. NEVER ALLOW OIL OR GREASE TO COME IN CONTACT WITH OXYGEN IN ANY WAY. Before connecting oxygen or flammable gas regulators, the cylinder or station valves must be opened slightly for an instant to remove any dirt present. Always use approved wrenches provided for connecting and disconnecting regulators, hoses, and torches. Pressure adjusting screws of oxygen and flammable gas regulators must be in release position before opening cylinder valves. Always stand to one side and away from front of regulator gauge faces when opening cylinder valves. Do not open acetylene cylinder valve more than 1 1/2 turns. Always use an approved wrench and leave it in place on the cylinder valve while in use. Open the oxygen cylinder valve slowly until cylinder pressure builds upon the regulator gauge, then open valve fully. Pressure of acetylene in hose or pipe line must not exceed 15 pounds per square inch.

Always close the cylinder valves and release pressure adjusting screws when moving equipment from one place to another or when leaving equipment unattended. Do not tamper with or attempt to repair cylinder valves, regulators, or torches. If they do not work properly, turn them in for repairs or replacement. Do not tighten a regulator to cylinder connection without first closing the cylinder valve. Never place tools, clothes, or material on top of cylinders or regulators.

Never use fire for the purpose of finding leaks. Leaks should be located by applying soap and water. A leaking gas cylinder must be placed in the open air, the valve opened, and all fire and open lights kept away until the gas has escaped from the cylinder. The valve must then be closed.

In case of fire in or around gas welding or cutting equipment, immediately close the cylinder or station valves. In case of flash-back, first close the oxygen valve at once—a delay is dangerous—then close the flammable gas valve if necessary. A spark lighter must be used to light torches. Using matches or other open flames is prohibited. Always see that torch valves are closed before the torch is laid down for any purpose. Place the torch where it will not be damaged, contaminated with dirt or grease, or the valves will not be accidentally struck and opened. Do not leave the torch in such position that gas could escape into a confined space.

Always maintain proper gas mixture adjustments, and do not allow torches to become overheated. When repairs are being made to oxygen or flammable gas

pipe line and the supply valve must be closed, a protective tag is attached to the valve. When the work is finished the tag must be removed only by the same workmen or craft that applied it. Oil-based pipe joint compounds must not be used on gas line connections. Before burning through sheet, plate, or other material personnel must ensure that no persons are in a position to be burned or struck by falling material. Do not use oxygen as a substitute for compressed air or as a source of pressure.

Before leaving equipment unattended or when work is finished, close oxygen and flammable gas cylinder or station valves tightly. Open torch valves to relieve pressure in the hoses. Release pressure adjusting screws on regulators where used. If hoses are removed from station, apply caps to station connections.

All compressed gas cylinders must be stored in a well-ventilated location and 20 feet away from highly combustible materials, including grease and oil, stoves, or other sources of heat. Oxygen cylinders must be separated from flammable gas cylinders by 20 feet or by a noncombustible partition at least 5-feet high. This partition must have a firm resistant rating of at least 1/2-hour. Acetylene, LP gas, and liquid oxygen cylinders should be stored, transported, and used in a vertical position. Keep open lights and fires away from all cylinders at all times.

All compressed gas cylinders, either loaded or empty, must be handled carefully. Do not drop or permit them to strike other cylinders, or subject them to any great shock or concussion. All cylinders must be secured to prevent them from falling or being knocked

over. Valve protection caps must be kept in place and tight at all times when cylinders are not in active use. Always protect hose from being run over or trampled, and avoid tangles and kinks.

Provide ventilation when flammable gas hose is removed from equipment and stored. To protect against fire or explosion, never enter a confined space with a lighted torch, or attempt to light a torch or strike an arc in any area where the odors of acetylene or other gaseous vapors are detected. Hoses of sufficient length must be used to prevent taking flammable gas cylinders into confined spaces. Before entering a closed place to do any flammable gas welding or cutting, make sure there are no leaks in any part of the equipment. Do not operate a torch with the hose thrown over the shoulder; keep the hose as far away from the body as possible.

Tanks, drums, other closed containers, and hollow or cored castings must be adequately vented before being heated. If a tank or container has been previously used for any flammable or poisonous material, it must be thoroughly drained, washed, and steamed out before cutting, welding, brazing, soldering, or applying heat in any way. Arrange for good ventilation when welding or cutting brass, bronze, galvanized iron, or painted metal. The use of cadmium-based silver solder is prohibited.

When a welder leaves electrical welding equipment unattended, electrode holder and leads must be properly placed to prevent short circuits or electrical

burns. Welder power supply must be in the OFF position. Before starting an electrical weld, ground wire must be firmly secured as close as possible to the material to be welded. Do not connect ground wire to water, steam, air, gas, or other pipe lines for electrical continuity purposes except when performing specific welding work on such equipment. When welding on locomotives, cars, or machines, ground wire must be attached to the frame or body to avoid passing current through bearings or gears. Welding on track structures without providing required protection for welders and equipment is prohibited.

Molten metal used in foundry or rail welding operations will explode upon contact with cold, damp, or wet materials. Therefore, molds and skimming tools must be warm and dry before being used. Do not pour molten metal on the ground. Leggings, approved goggles, gloves, sleeves, and adequate foot protection must be worn when welding with or otherwise handling molten metal.

CRANES, HOISTS, AND DERRICKS

The use of cranes, hoists, and derricks is one of the major labor saving devices in the maintenance department; it can be one of the most dangerous if not used properly. Rules must be observed to avoid injury to personnel using such machinery. Before using cranes, hoists, derricks, or similar equipment, the operator must know that the equipment, including pulleys, cables, and drums, is in safe condition and that all safety guards are in place. Brakes and limit switches

must be tested periodically to ensure that they are in proper condition and operating properly.

Hand signals or verbal instructions for operating hoisting equipment must be given only by the designated person. Operators of hoisting equipment must not act upon signals or instructions, except STOP signals, unless they are given by the designated person. Where two cranes or derricks are lifting the same load, one person is designated to direct the movement of both.

The hoisting equipment operator must not move the equipment without clearly understood signals or instructions. When hand signals are being used, the person giving the signals must remain in sight of the operator at all times. Hand signals are given according to the standard code as shown in Figure 6.

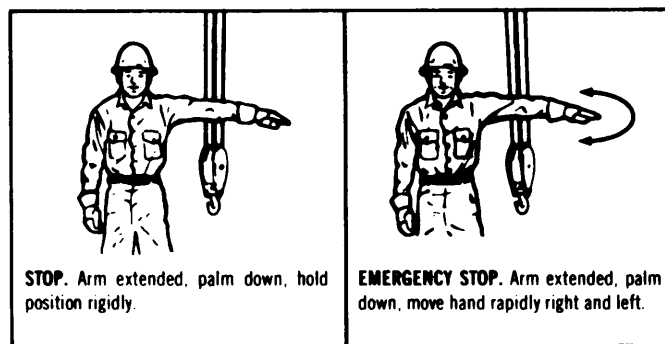


Figure 6. Standard Crane and Derrick Hand Signals

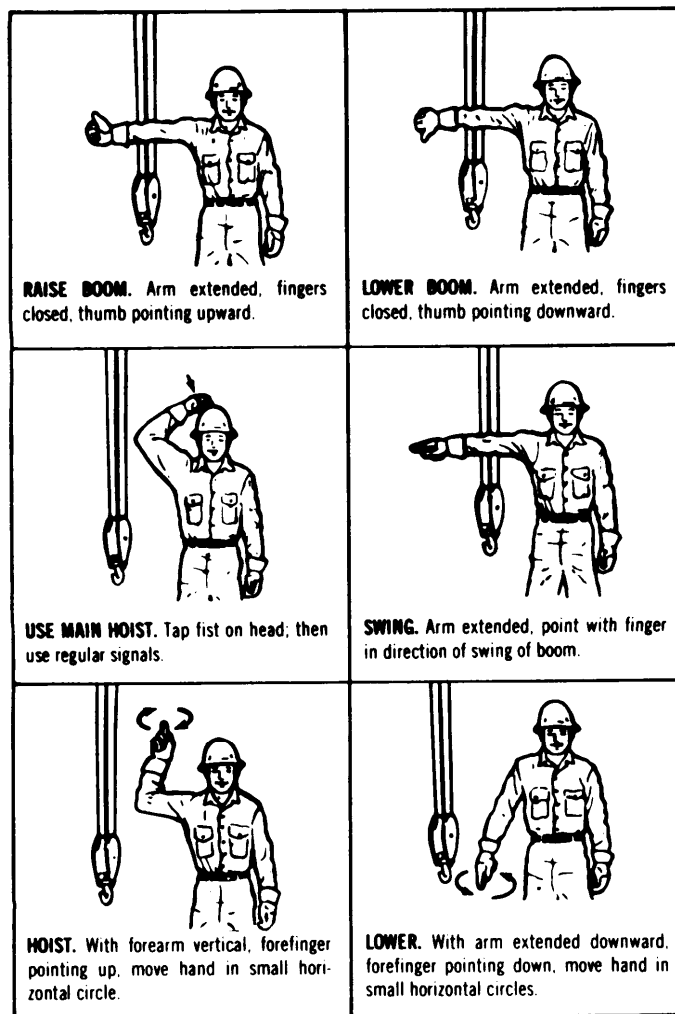


Figure 6. Standard Crane and Derrick Hand Signals (cont)

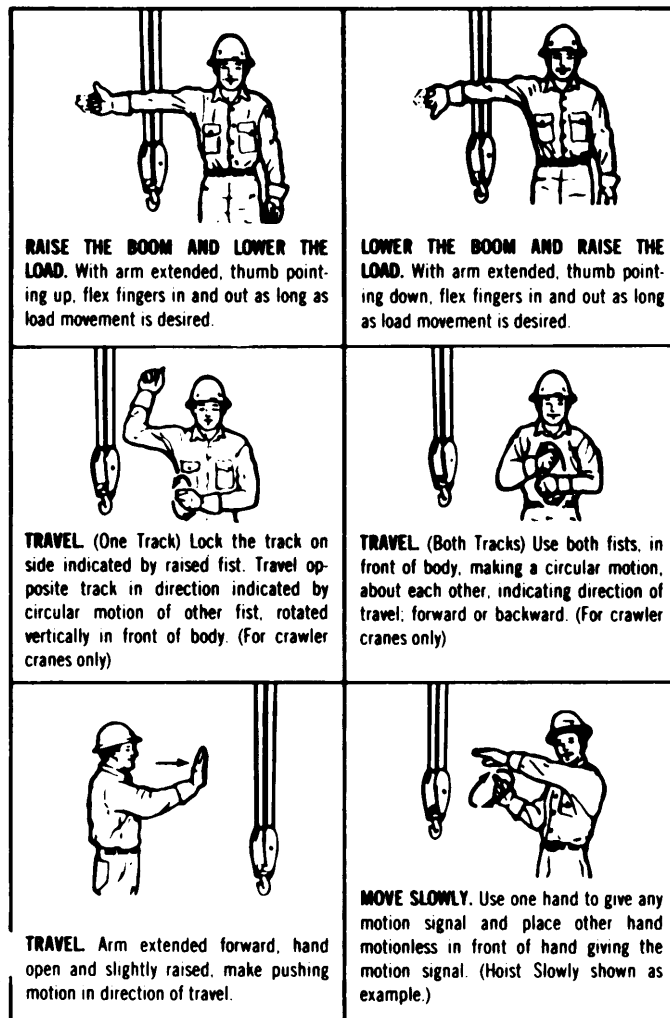


Figure 6. Standard Crane and Derrick Hand Signals (cont)

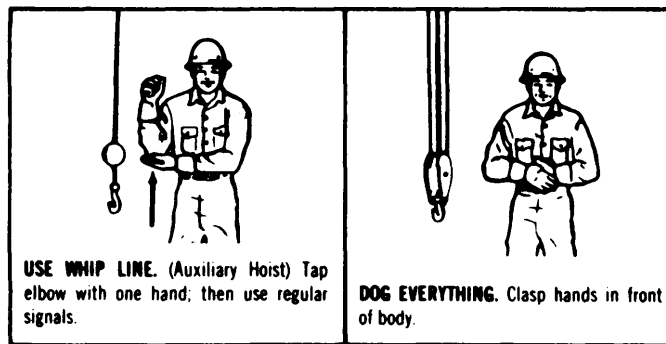


Figure 6. Standard Crane and Derrick Hand Signals (cont)

Place the block or hook directly over the load, if possible, to prevent the load from dragging or swinging when lift is made. If material being handled gets out of control, employees must not attempt to catch or rebalance it, until swinging material comes to rest.

The supervisor, or the person designated by him, must see that the crane capacity is not exceeded and that rail clamps and outriggers are properly used when provided. He must also ensure that hooks, chains, cables, ropes, slings, and so forth, used for hoisting purposes are the proper size and in condition to safely handle the load. The capacity of cranes, hoists, or derricks must be posted in operating cab, or at other locations readily visible to the operator.

Do not attach the hook of the crane or hoist block directly to an object being moved. Chains, slings, or other lifting accessories must be used. Personnel must

see that attachment to the load is secure and properly made to prevent slipping. Crane operators must, when possible, see that this is done.

Carrying a load over workmen is prohibited. Proper warning must be given to alert persons in or near the path of a moving load or load-handling equipment. Do not move crane, hoist, or derrick when the load is swaying or turning excessively. The operator of hoisting equipment must never lift a load with a sudden jerk or lower it with a sudden stop.

Before moving a crane from which an empty sling is hanging, both ends of the sling must be hooked to the block. The hooks and attachments must be high enough to clear obstacles. Personnel must place themselves in a position so they cannot be caught between an obstruction and the load being handled or the load-handling equipment. Be alert for unexpected swing or shifting of loads. Do not leave hoisting equipment unattended with load, bucket, magnet, or other heavy attachments suspended.

The crane or derrick boom must be lowered to a car or the ground for lubrication, inspection, or repair. The boom must be secured to prevent movement when it is not in use. When guiding suspended loads, push rather than pull when possible. Keep hands and feet from under load. Use tag lines on bulky or awkward loads. Before unhooking a sling, be sure that the load has settled and take a position to avoid being struck by the sling or any part of the load.

When working around electric wires, use extreme care in handling hoisting equipment because there is

danger in current traveling from wires to boom. No part of equipment or load must be permitted to come within 10 feet of high-tension wires unless they have been de-energized.

LADDERS AND SCAFFOLDS

Railway equipment maintenance personnel are constantly using ladders and scaffolds in their repair work. They must know how to safely use equipment. Personnel must see that ladders are of adequate length. Placing a ladder on a box, barrel, block, or other object to increase the reach is prohibited. The use of improvised ladders is prohibited.

Straight ladders must be placed on solid footing, secured against slipping by the use of spikes, safety feet, or other means, and supported at the upper end to prevent twisting. Straight ladders should be placed so that the horizontal distance from the base to the support against which the ladder is leaning is about one fourth the length of the ladder.

Extension ladders must be properly assembled and carefully raised to ensure that sufficient overlap is maintained and that guides and hooks are engaged. Step ladders must be fully opened, with spreaders set, and placed on a solid level surface. The use of step ladders as straight ladders is prohibited.

Personnel must face ladders and hold on with both hands when ascending or descending. If tools or material must be handled, use a hand line. Do not

climb higher than the third rung from the top of straight ladders or the second step from the top of step ladders. Ladders must not be used in a horizontal position as a scaffold or scaffold member.

Personnel must see that scaffolds are properly constructed or assembled, are of sufficient strength for the required load, and are approved by the proper authority before being used. Scaffold boards used on sectional metal scaffolds must be equipped with cleats on the under side. Where such scaffolding is equipped with wheels, they must be locked before climbing or working from the scaffold. Special care must be taken in the placing of hooks for suspended scaffolding to ensure that they will safely support the intended loads. Hooks must not be in a position where they may be disturbed or dislodged.

All scaffolding must be provided with hand railings and toe boards. Do not move scaffolds or ladders from point-to-point while personnel are on them. Take the necessary precaution to assure that tools and materials will not fall when moving such equipment. Scaffolds and ladders in use at locations where persons or vehicles could collide with them should be properly protected, and ropes or other means should be used to protect persons from falling objects.

Do not reach or lean out more than an arm's length from the edge of a ladder, scaffold, or elevated platform. Do not use metal ladders or scaffolds where they may come in contact with electrical wires or equipment. Do not perform electrical work while standing on portable metal ladders. Personnel performing work

from metal scaffolding must take necessary precautions to prevent electrical shock. Except when a scaffold or other protection is provided, a safety belt, safety net, or guard line must be used by all personnel while working.

ELECTRICAL AND LINE WORK

Only qualified persons charged with that duty shall install, or make repairs or adjustments to electrical systems or tools, machinery, and apparatus. When possible, disconnect the power source before working on an energized circuit or equipment. Take care to avoid coming in contact with water, steel bridges, ground wires, guy wires, and all other circuits when working on any power circuit regardless of voltage.

Do not climb power line poles, radio towers, floodlight towers, or other such structures or enter substations or power plants without authorization. Examine every pole, tower, ladder or other structure, including bases, before attempting to climb it. Ensure that structures are sound enough to support the weight to be placed upon or against it. All equipment on the structures must also be examined before sitting, leaning, standing, or otherwise placing strain on it. Two or more persons must not climb up or down a pole or ladder at the same time. The succeeding person must wait until the one preceding is either in position at the top or in the clear at the bottom. Use both hands when ascending or descending ladders, poles, or structures. Body belts, shoulder straps, or pockets must be used to carry small tools or material. Hand lines must

be used for heavier items. Exercise extreme care to prevent injury as a result of materials being thrown or dropped.

Use prescribed protective equipment and tools when working on electrical wires or apparatus. Such equipment must be regularly inspected and tested to ensure that it is in safe condition. When working on or handling wire, rope, or cables on curves or corners, personnel must not stand in the inside angle unless they are properly protected.

Be careful when cutting copper, bronze, or galvanized guy wire to prevent injury due to flying ends. In replacing a defective pole with a new one, the old pole must be inspected and positively secured before climbing or transferring any wires. Before removing any wire from any pole or structure, positive supports such as, but not limited to, guying, piking, or roping must be used to assure that removal of such wire(s) will not permit the pole or structure to fall.

All wires and circuits are to be considered energized at all times unless personnel have positive knowledge to the contrary. The insulation on tools or wires alone must not be relied upon for protection. When electrical circuits are opened for work, the power control devices shall be locked or blocked open, and protective tags or devices shall be removed only by the same workman or craft that applied them.

Before beginning work on high-voltage lines or equipment to de-energize them, workmen shall make certain that the current source has been disconnected.

The de-energized lines or equipment shall then be grounded on both sides of the personnel who will perform the work. Before working on a high-voltage capacitor the terminals shall be grounded, using an approved grounding lead insulated equally to the capacitor voltage rating.

Before making repairs to a transformer, disconnecting switches on both sides must be opened and the transformer grounded. If the transformer is not equipped with disconnecting switches, the primary and secondary connections shall be disconnected. Current or series transformers with energized primary windings shall have their secondary windings short circuited when not in use.

Any act which will raise or destroy the protective action of fuses or circuit breakers is prohibited except when done in emergencies by qualified personnel. When possible, de-energize circuits before replacing fuses. Use care at all times to prevent water from hose stream or other sources from coming in contact with electrical wires and equipment. This also applies to liquids contained in fire extinguishers, except when directions on the extinguisher specify that it may be used on electrical fires.

Personnel must not work on live conductors from above when such work can be done from below. All electrical wiring, other than of temporary or emergency nature, shall be installed according to local or national codes. Do not work around wires or electrical apparatus during electrical storms unless absolutely necessary.

Preparation Instructions

Follow these instructions to complete DD Form 4092-R.

Train Order No. — Enter the number the dispatcher relays to the operator.

From — Enter the dispatcher location issuing the order and the current date.

To C & E — Enter correct train identification or the addresses (for instance, yard engines, yardmaster, and so forth).

At (Station) — Enter the station name copying the order.

X — Enter an “X” when using the “X” response as directed by the dispatcher.

Operator — Enter the last name of the operator using the “X” response

Time — Enter the time the “X” response was used.

Train Order — Enter the correct instruction using the proper form at all times.

Repeated — Used when dispatcher uses the “X” response and the operator requested the order out of sequence. Enter the time the train order was repeated.

Chief Dispatcher — Enter the initial of the chief dispatcher as relayed by dispatcher.

Made — Enter “com” (complete) after the dispatcher has “OK'D” or completed the order which is after the operator has repeated it.

Time — Enter the time dispatcher "OK'D" or completed the train order.

Operator — Enter the last name of the operator copying the train order.

TRAIN ORDER FM 55-21		TRAIN ORDER NO. 38	FROM Conroy 15 Jan 1986	
TO C&E No. 34 Eng 346				
AT (Station) 80	X	OPERATOR	TIME	
TRAIN ORDER No. 34 Eng 346 meet Extra 1562 West at BL.				
SAMPLE				
REPEATED		CHIEF DISPATCHER		
MADE Com	TIME 14 40	OPERATOR Langray		

DA FORM 4091-R, 1 MAY 73 Replaces DA FORM 4091, 1 APR 55, which is obsolete

Instructions to complete DD Form 4091-R are as follows.

Date — Enter current date.

Station — Enter the name of the issuing station.

Conductor and Engineer — Enter the correct train identification designator.

Orders — Enter the number of all orders that are applicable to the train as sent by the dispatcher. there are no orders, enter none in the space.

Ok At (Time) — Enter the time the dispatcher "OK'D" the clearance form.

Chief Dispatcher — Enter the initial of the chief dispatcher that "OK"D" the clearance order as relayed by the dispatcher.

Do Not Leave Before — Completed as required by the dispatcher.

Block — Enter the block designated if required by the dispatcher.

Operator — Enter the last name of the operator copying and issuing the clearance order.

CLEARANCE FORM "A" FM 55-21		DATE <i>15 Jan 1986</i>
STATION <i>Hanks</i>		
CONDUCTOR AND ENGINEER <i>No. 145</i>		
ORDERS (If no orders, indicate "NONE") <i>18, 23</i> SAMPLE		
OR AT (Time) <i>1415</i>	CHIEF DISPATCHER <i>LSA</i>	
DO NOT LEAVE BEFORE (Fill in when necessary to comply with rule 231) <i>1418</i>		
BLOCK (Fill in only when operating under Manual Block System)	OPERATOR <i>Ryan</i>	
Conductor and engineer must have a copy and see that their train is correctly designated in the above form, also that the numbers of all train orders received correspond with numbers inserted above. OPERATOR MUST RETAIN A COPY		
DA FORM 4091-R, 1 MAY 73 REPLACES DA FORM 55 200 WHICH IS OBSOLETE		

GLOSSARY

APB	absolute permissive block
ABS	automatic block signal system
ACS	automatic cab signal system
ATS	automatic train stop
CTC	centralized traffic control
DT	double track
TWC	track warrant control

REFERENCES

REQUIRED PUBLICATIONS

Required publications are sources that users must read in order to understand or to comply with this publication.

Field Manual (FM)

55-20 Army Rail Transport Units
 and Operations

Army Regulation (AR)

611-201 Enlisted Career Management
 Fields and Military
 Occupational Specialties

RELATED PUBLICATIONS

Related publications are sources of additional information. They are not required in order to understand this publication.

Army Regulations (ARs)

55-255 Railroad Equipment

56-3 Objectives and Policy for
 Army Rail Equipment:
 Management of Army Rail
 Equipment

INDEX

Abbreviations, 16, 91, 92
Absolute permissive block, 135
Accidents, reporting, 183
Agent, station, 182, 206
Air hose, 213
Aspects, See Signal aspects
Auto-railer, 214

Block signals, 132, See also Signals
Block system rules, 135
 Suspension of, 149
Boarding, riding, and alighting
 from locomotives and cars, 195, 197

Cars
 Motor, 193
 Track, 191
Cars and locomotives, coupling
 and uncoupling, 59, 200
Cranes, operating precautions, 232

Derrick, standard crane and, 233
Definitions, See Terms
Duty positions, rules of, 204, 217
Distant signal, 130

Enginemen and firemen, 213, 214
Engineers, 209
Engine bell, 28

Fire prevention, 218, 228, 229
Flagmen and brakemen, 50
Flag protection, 50
Fusees
 Use of, 50
 Unattended, 27
General rules, 6, 174, 217
Hand brakes, 60, 198
Hoists, See also Cranes, operating precautions
Inspection
 Watch, 17
 Train, 73, 74
Ladders, use of, 238
Lights, train and engine, 30, See also Signals, light
Maintenance-of-equipment personnel, 223
Maintenance-of-way personnel,
 safety of, 217
Markers, train and engine, 32, 33
Material and tool handling, 219
Materials-handling equipment, 219
Multi-level operations, 215
Operators, telegraph and telephone, 183,
 See also Right-of- Way Safety, Radio
Operating rules, 13, 14, 17
Radio procedure, 167
Railways, Department of Army, 6
Register time inspection, 17

- Right-of-way safety, 219
 - Block signal, 132, 135
 - Conductors, 211 through 213
 - Engine crew and train crew, 213, 214
 - Engineman and fireman, 213, 214
 - Flagman and brakeman, 50
 - General rules, 174
 - Interlocking, 78
 - Movement, 41
 - Numbering, 48
 - Radio, 167
 - Station agent, 182
- Safety rules, 12, 204, 223, See also
 - Duty Positions, rules of
- Schedules, 19
- Shop precautions, 224
- Signal aspect, 130
- Signals
 - Block, 132, 135
 - Blue signal, 34 through 39
 - Communicating, 21 through 24, 28
 - Engine whistle, 28 through 31
 - Flag, 24 through 26, 39
 - Restrictions, 24 through 26
 - Location, 26
 - Protection, 26, 27
 - Hand, 22
 - Light, 30 through 32
 - Improper display, 39
 - Observe and call. 39
 - Prescribed, 22
 - Stop, 39
 - Train order, 90

- Use of, 21
- Special rules, 14 through 16, 204
- Station agent, 182
- Switches, 63, 64
- Terms, 6 through 12, 34, 35
- Time, standard, 17, 20
- Timetables, 18 through 20
- Torpedoes, 27
- Track clearances, 219
- Track permit, 132
- Track warrants and bulletins, 156, 162
 - Transmitting, 172
- Train and engine crews, 213, 214
- Train orders, 75
 - Examples of, 93 through 129
 - Prescribed forms, 90
 - Signals, 89
 - Transmitting, 172
- Trains
 - Movement of, 41, 206
 - Superiority of, 40
 - Work, 45, 48
- Trainmen, 213
- Watches, 17
- Watchmen, 217
- Welding, 227
- Whistle signal, 29
- Wire safety, 232, 240, 241
- Yardmaster, 208
- Yard limit, 47

FM 55-21

17 JULY 1989

By Order of the Secretary of the Army:

CARL E. VUONO
General, United States Army
Chief of Staff

Official:

WILLIAM J. MEEHAN II
Brigadier General, United States Army
The Adjutant General

DISTRIBUTION:

Active Army, ARNG, and USAR: To be distributed in accordance with DA Form 12-11E, requirements for FM 55-20, Army Rail Transport Units and Operations (Qty rqr block no. 391).

